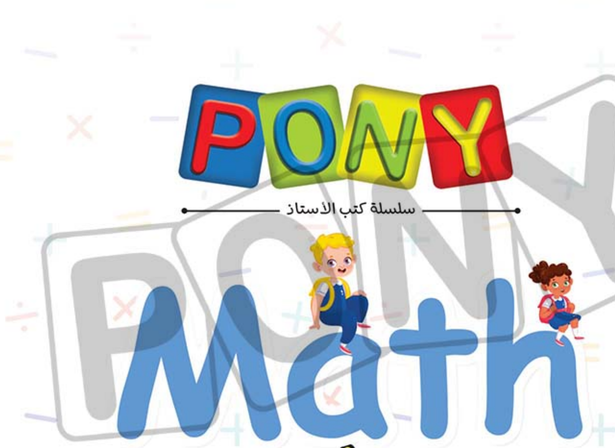

PONY
سلسلة كتب الأستاذ
Math


3rd
Primary


Second Term
Main Book



Contents

Chapter 7



Chapter Lessons

Lessons 1&2 Distributive and Associative Property of Multiplication

Outcomes:
- Explaining the Associative Property of Multiplication.
- Applying the Associative Property of Multiplication to solve problems.
- Collaborating to define math terminology in his/her own words.
- Explaining the Distributive Property of Multiplication.
- Applying the Distributive Property of Multiplication to solve problems.

Lesson 3 Estimating Multiplication

Outcomes:
- Applying strategies to estimate products.
- Applying properties and strategies to solve multiplication problems.
- Explaining chosen problem-solving strategies.

Key Vocabulary

- Associative Property
- Parentheses
- Fact family
- Width
- Distributive Property
- Addend
- Quotient
- Perimeter
- Product
- Bar model
- Inverse
- Area
- Factors
- Estimation
- Strategy
- Length
- Multistep problem

Lessons 4&5 Applications on Multiplication and Division

Outcomes:
- Explaining the relationship between multiplication and division.
- Solving multiplication and division problems with an unknown number.
- Explaining how he/she can use the relationship between multiplication and division to solve problems.
- Identifying a variety of multiplication and division problem-solving strategies.
- Applying more than one strategy to solve multiplication and division problems with an unknown number.
- Justifying the use of preferred problem-solving strategies.

Lesson 6 Perimeter of a Square and a Rectangle

Outcome:
- Solving perimeter problems involving an unknown side length.

Lessons 7–9 Two-Step Story Problems

Outcomes:
- Solving two-step story problems involving addition, subtraction, multiplication, or division.
- Explaining the strategies he/she uses to solve complex story problems.
- Analyzing solutions to two-step story problems to identify and explain the errors made.
- Explaining the benefits of error analysis in improving thinking and learning.
- Applying multiple strategies to solve two-step story problems.
- Justifying problem-solving strategies.
- Writing two-step story problems involving any operation.



Distributive and Associative Property of Multiplication خاصيتا التجميع والتوزيع في الضرب

Remember

- Multiplication is a repeated addition. عملية الضرب هي عملية جمع متكررة.

Ex. 5 + 5 + 5 + 5 + 5 + 5 = 6 X 5 = 30
6 + 6 + 6 + 6 + 6 = 5 X 6 = 30

Multiplication Properties خواص عملية الضرب

Commutative Property خاصية الإبدال	Associative Property خاصية التجميع	Distributive Property خاصية التوزيع

First Commutative Property: خاصية الإبدال:

X X X X X
X X X X X
X X X X X

3 rows, 5 in each row
3 X 5 = 15

X X X
X X X
X X X
X X X
X X X

5 rows, 3 in each row
5 X 3 = 15

So, 3 X 5 = 5 X 3 (Commutative Property)

1 Complete the following, as in the example:

Ex. 5 + 5 + 5 + 5 + 5 + 5 = 30

So,

5 X 6 = 30 and 6 X 5 = 30

ⓐ 3 + 3 + 3 + 3 + 3 + 3 = ... So, { .... X .... = ... and .... X .... = ... }



ⓑ 4 + 4 + 4 + 4 + 4 = ... So, { .... X .... = ... and .... X .... = ... }

ⓒ 6 + 6 + 6 = ... So, { .... X .... = ... and .... X .... = ... }

Second Associative Property: خاصية التجميع:

Ex. To find 3 X 5 X 2, we can do this in two ways.

First Way ▶ (3 X 5) X 2
= 15 X 2 = 30

Second Way ▶ 3 X (5 X 2)
= 3 X 10 = 30

Important Note:

- We multiply what's inside the parentheses first.

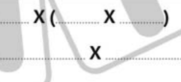
نقوم بضرب ما بين القوسين أولًا.

So, (3 X 5) X 2 = 3 X (5 X 2)
(Associative Property)

2 Complete the following:

ⓐ 2 X 5 X 6

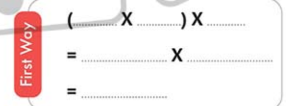
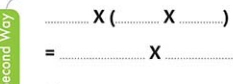




First Way:
(.......... X ....) X ....
= .... X ....
= ....

Second Way:
.... X (.......... X ....)
= .... X ....
= ....

ⓑ 3 X 5 X 2

First Way:
(.......... X ....) X ....
= .... X ....
= ....

Second Way:
.... X (.......... X ....)
= .... X ....
= ....

Ⓒ 3 X 2 X 10

First Way

(........ X ....) X ....

= .... X ....

= ....

Second Way

.... X (........ X ....)

= .... X ....

= ....

3 Kamal brought home 2 boxes filled with bags of apples. Each box had 3 bags with 5 apples in each. How many total apples did Kamal bring home?

Write an equation and solve it.

....

....

....

Third Distributive Property: خاصية التوزيع:

Find: 4 X 9

Array Strategy: إستراتيجية المصفوفة:

4 X 9 = 4 X (6 + 3)

= (4 X 6) + (4 X 3)

= 24 + 12 = 36

4 X 6 — 6 columns — 4 rows; 4 X 3 — 3 columns — 4 rows; 4 X 9

Bar Model Strategy: إستراتيجية نموذج شريط الأعداد:

4 X 9 = 4 X (4 + 5)

= (4 X 4) + (4 X 5)

= 16 + 20 = 36

4 X 4 | 4 X 5

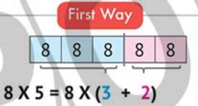
4	4	4	4	4	4	4	4	4

4 X 9

4 Use the **Distributive Property of Multiplication** to find the product of each of the following using the **bar model strategy** in two different ways.


8 X 5

First Way



8 X 5 = 8 X (3 + 2)

= (8 X 3) + (8 X 2)

= 24 + 16 = 40

Second Way

8	8	8	8	8

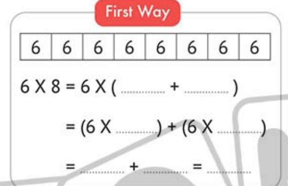
8 X 5 = 8 X (4 + 1)

= (8 X 4) + (8 X 1)

= 32 + 8 = 40

ⓐ 6 X 8

First Way



6 X 8 = 6 X (........ + ...)

= (6 X ....) + (6 X ....)

= .... + ... = ...

Second Way

6	6	6	6	6	6	6	6

6 X 8 = 6 X (........ + ...)

= (6 X ....) + (6 X ....)

= .... + ... = ...

ⓑ 5 X 12

First Way

5	5	5	5	5	5	5	5	5	5	5	5

5 X 12 = 5 X (........ + ...)

= (...... X ......) + (...... X ......)

= .... + ... = ...

Second Way

5	5	5	5	5	5	5	5	5	5	5	5

5 X 12 = 5 X (........ + ...)

= (...... X ......) + (...... X ......)

= .... + ... = ...



HOME ACTIVITIES

1 Complete the following:

ⓐ 5 + 5 + 5 + 5 = ...
So .... X .... = ...
and .... X .... = ...

ⓑ 4 + 4 + 4 + 4 + 4 = ...
So .... X .... = ...
and .... X .... = ...

ⓒ 6 + 6 = ...
So .... X .... = ...
and .... X .... = ...

ⓓ 2 + 2 + 2 + 2 + 2 + 2 = ...
So .... X .... = ...
and .... X .... = ...

ⓔ 3 + 3 + 3 + 3 + 3 = ...
So .... X .... = ...
and .... X .... = ...

ⓕ 5 + 5 + 5 = ...
So .... X .... = ...
and .... X .... = ...

ⓖ 1 + 1 + 1 + 1 + 1 = ...
So .... X .... = ...
and .... X .... = ...

ⓗ 7 + 7 = ...
So .... X .... = ...
and .... X .... = ...

2 Complete the following:

ⓐ 5 X 4 = ... + ... + ... + ... + ...

ⓑ 6 X 2 = ... + ... + ... + ... + ... + ...

ⓒ 8 X 3 = ... + ... + ...

ⓓ 6 X 5 = ... + ... + ... + ... + ...

ⓔ 6 X 5 = ... + ... + ... + ... + ... + ...

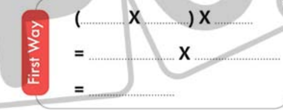
f) 4 x 7 = ... + ... + ... + ... + ... + ... + ...

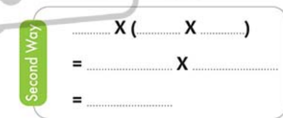
g) 4 x 7 = ... + ... + ... + ...

h) 5 x 5 = ... + ... + ... + ... + ...

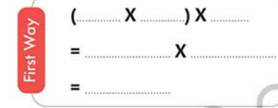
3 Use the Associative Property of Multiplication to find the product of each of the following in two different ways:

a) 2 x 3 x 4


First Way
(........ X ....) X ....
= .... X ....
= ....


Second Way
.... X (........ X ....)
= .... X ....
= ....

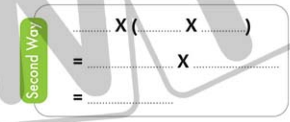
b) 2 x 3 x 5


First Way
(........ X ....) X ....
= .... X ....
= ....

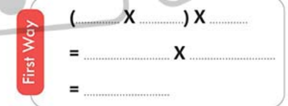

Second Way
.... X (........ X ....)
= .... X ....
= ....

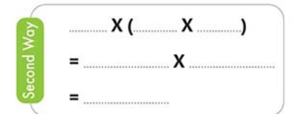
c) 2 x 5 x 4


First Way
(........ X ....) X ....
= .... X ....
= ....


Second Way
.... X (........ X ....)
= .... X ....
= ....

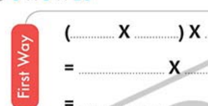
d) 2 x 5 x 10

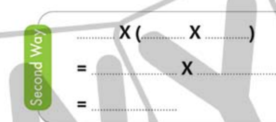

First Way
(........ X ....) X ....
= .... X ....
= ....


Second Way
.... X (........ X ....)
= .... X ....
= ....

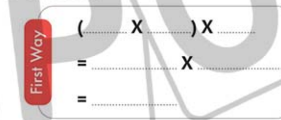


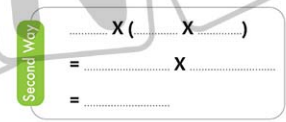
ⓔ 3 X 3 X 10





ⓕ 5 X 3 X 10





4 **Circle the equations that have the same values:**

ⓐ (2 X 4) X 5 [2 X (4 X 5) or 8 X 5 or 6 X 5]

ⓑ (7 X 3) X 4 [21 X 4 or 10 X 4 or 7 X 12 or 7 X 7]

ⓒ 6 X (3 X 5) [3 X 15 or 6 X 15 or 18 X 5 or 6 X 8]

ⓓ 15 X 2 [3 X (5 X 2) or (3 X 5) X 2 or 4 X 10]

ⓔ 12 X 7 [(6 X 6) X 7 or (3 X 4) X 7 or 3 X 28]

5 **Kamal brought home three boxes filled with bags of apples.**

Each box had 3 bags with 5 apples in each.

How many total apples did Kamal bring home?

Write an equation and solve it.

....

....

....



6 To bring new basketballs to a sports center, two trucks have arrived with 10 boxes each. Inside each box, there are 5 basketballs. How many basketballs have reached the sports center? Write an equation and solve it.

....

....

....

7 Use the Distributive Property of Multiplication to find the product of each of the following using the bar model strategy in two different ways:

a

4	4	4	4	4	4	4	4	4

First Way

4 X 9 = 4 X (........ + ...)
= (4 X ....) + (........ X ....)
= .... + ... = ...

4	4	4	4	4	4	4	4	4

Second Way

4 X 9 = 4 X (........ + ...)
= (4 X ....) + (4 X ....)
= .... + ... = ...

b

3	3	3	3	3	3	3	3	3	3	3	3

First Way

3 X 12 = 3 X (........ + ...)
= (3 X ....) + (3 X ....)
= .... + ... = ...

3	3	3	3	3	3	3	3	3	3	3	3

Second Way

3 X 12 = 3 X (........ + ...)
= (3 X ....) + (3 X ....)
= .... + ... = ...

c

7	7	7	7	7	7	7	7	7	7

First Way

7 X 10 = 7 X (........ + ...)
= (7 X ....) + (7 X ....)
= .... + ... = ...

7	7	7	7	7	7	7	7	7	7

Second Way

7 X 10 = 7 X (........ + ...)
= (7 X ....) + (7 X ....)
= .... + ... = ...

(d)

First Way

9 X 15 = ... X (...... + ...)

= (...... X ......) + (...... X ......)

= ...... + ... = ...

Second Way

9 X 15 = ... X (...... + ...)

= (...... X ......) + (...... X ......)

= ...... + ... = ...

(e)



First Way

6 X 13 = ... X (...... + ...)

= (...... X ......) + (...... X ......)

= ...... + ... = ...

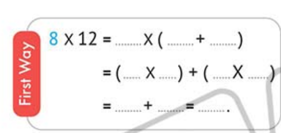
Second Way

6 X 13 = ... X (...... + ...)

= (...... X ......) + (...... X ......)

= ...... + ... = ...

(f)



First Way

8 X 12 = ... X (...... + ...)

= (...... X ......) + (...... X ......)

= ...... + ... = ...

Second Way

8 X 12 = ... X (...... + ...)

= (...... X ......) + (...... X ......)

= ...... + ... = ...

8 Complete the following:

(a) 7 X 18 = ... X (10 + ...)

= (...... X ......) + (...... X ......)

= ...... + ... = ...

(b) 8 X 19 = ... X (...... + ...)

= (...... X ......) + (...... X ......)

= ...... + ... = ...

(c) 9 X 14 = ... X (...... + ...)

= (...... X ......) + (...... X ......)

= ...... + ... = ...

(d) 5 X 16 = ... X (...... + ...)

= (...... X ......) + (...... X ......)

= ...... + ... = ...

9 Use the **Distributive Property** to find the result, as in the example:

Ex. 6 fives = 4 fives + 2 fives

6 X 5 = (4 X 5) + (2 X 5)

= 20 + 10 = 30

a 7 threes = 5 threes + 2 threes

...... X ...... = (...... X ......) + (...... X ......)

= ...... + ... = ...

b 8 fours = 5 fours + 3 fours

...... X ...... = (...... X ......) + (...... X ......)

= ...... + ... = ...

c ...... tens = 6 tens + 3 tens

...... X ...... = (...... X ......) + (...... X ......)

= ...... + ... = ...

10 Hossam went to the apple orchard. There were 12 apple trees, and each tree had 7 apples. How many apples were there in all at the orchard?

Use the **Distributive Property** to find:

12 sevens = 10 sevens + 2 sevens

12 x 7 = (...... X ......) + (...... X ......)

= ...... + ...

= ......

Worksheet 1

First: **Choose the correct answer:**

a) $4 + 4 + 4 + 4 + 4 + 4 =$ .... (4+6 or 3+8 or 3×8)

b) $6 \times 3 =$ .... (9+2 or 6+6+6 or 3+6)

c) $8 \times 15 =$ .... (8 X (10 X 5) or 8 X (10 + 5) or 8 X (7 X 8))

d) $4 \times (3 \times 5) =$ .... ((4 X 3) X 5 or (4 + 3) + 5 or 4 X 25)

e) $(3 \times 7) + (3 \times 6) =$ .... (3 X 15 or 3 X 13 or 3 X 42)

Second: **Complete the following:**

a) 4 X 2 X 5 = ... X (.......... X ....) = ... X .... = ...

b) 5 X 18 = ... X (.......... + ...) = (.......... X ....) + (.......... X ....)

= .... + ... = ...

c) (4 X 8) + (4 X 2) = ... X (.......... + ...) = ... X .... = ...

d) 5 + 5 + 5 + 5 = ... X .... = ...

e) 7 X 6 = 40 + ...

Third: **Answer the following:**

a) **Match the equal equations:**

a	b	c	d
(3 X 5) X 4	7 X (5 + 9)	9 X (2 X 5)	(2 X 3) + (2 X 5)
(7 X 5) + (7 X 9)	2 X (3 + 5)	3 X (5 X 4)	9 X 10
1	2	3	4

b) Ahmed has a garden with two sections of vegetables.
Each section of vegetables has 5 rows with 10 plants in each row.
How many plants does Ahmed have in his garden?
Write an equation and solve it.

....

....



Estimating Multiplication تقدير ناتج الضرب

Estimation التقدير

It is a way to get a result close to the actual result.
هو طريقة للحصول على ناتج قريب من الناتج الفعلي.

Neighboring Multiplication Facts Strategy:
إستراتيجية حقائق الضرب المجاورة:

Ex. Estimate the product of 5 X 8.

It can be estimated in one of the following ways:

First Way

Subtract 1 from 5 →	4 X 8 = 32
Add 1 to 5 →	6 X 8 = 48
Actual Product →	5 X 8 = 40

The actual product of 5 X 8 is 40, and it lies between 32 and 48.

32 < 40 < 48

Second Way

Subtract 1 from 8 →	5 X 7 = 35
Add 1 to 8 →	5 X 9 = 45
Actual Product →	5 X 8 = 40

The actual product of 5 X 8 is 40, and it lies between 35 and 45.

35 < 40 < 45

In all of the above, we get a good estimate because all previous estimates are close to the actual product.
في كل مما سبق نحصل على تقدير جيد؛ لأن التقديرات السابقة قريبة من الناتج الفعلي.

Ex. Estimate the product of 3 X 9.

2 X 9 = 18 and 4 X 9 = 36

The actual product of 3 X 9 is 27.

So The actual product of 3 X 9 lies between 18 and 36.

or

3 X 8 = 24 and 3 X 10 = 30

The actual product of 3 X 9 is 27.

So The actual product of 3 X 9 lies between 24 and 30.

1 Estimate each of the following using the neighboring multiplication facts strategy, then find the actual product:

	Problem	Estimate/ The actual product lies between	Actual Product
a	6 X 8	.... X .... = ... and .... X .... = ...	....
b	5 X 7	.... X .... = ... and .... X .... = ...	....
c	6 X 9	.... X .... = ... and .... X .... = ...	....
d	8 X 4	.... X .... = ... and .... X .... = ...	....
e	3 X 6	.... X .... = ... and .... X .... = ...	....

Ex. Estimate the product of 4 X 18.

Front-End Estimation Strategy:

إستراتيجية التقدير من خلال أول رقم من اليسار:

4 X 18
↓
4 X 10 = 40

Rounding to the Nearest Ten Strategy:

إستراتيجية التقريب لأقرب 10:

4 X 18
↓
4 X 20 = 80

Actual Product:

الناتج الفعلي:

4 X 18 = 4 X (10 + 8) = (4 X 10) + (4 X 8) = 40 + 32 = 72

- **By comparing the estimation results with the actual result, we find that:**
  - 40 is not an acceptable estimate because it is not close to the actual product.
  - 80 is an acceptable estimate because it is close to the actual product.

مما سبق نجد أن:
• (40) تقدير غير مقبول لأنه بعيد عن الناتج الفعلي.
• (80) تقدير جيد (مقبول) لأنه قريب من الناتج الفعلي.

2 Estimate the product, then solve each problem using any strategy or property that helps you:

	Problem	Front-End Estimation Strategy	Rounding to the Nearest Ten Strategy	Actual Product
a	8 X 12	....	....	8 X 12 = ... X (........ + ...) = ... + ... = ...
b	9 X 13	....	....	9 X 13 = ... X (........ + ...) = ... + ... = ...
c	6 X 19	....	....	6 X 19 = ... X (........ + ...) = ... + ... = ...

Ex. Estimate the product of 3 X 4 X 2.

▶ **To get the closest estimate to the actual product of three numbers:**

للحصول على أقرب تقدير للناتج الفعلي لحاصل ضرب ثلاثة أعداد:

1 Multiply the two larger numbers (Associative Property).

1 ضرب أكبر عاملين (خاصية التجميع).

2 Estimate the product.

2 تقدير ناتج حاصل الضرب.

(3 X 4) X 2 = 12 X 2

- 10 X 2 = 20 ← Estimate
- 12 X 2 = 24 ← Actual Product

3 Estimate each of the following, then find the actual product:

	Problem	Estimate	Actual Product
a	2 X 4 X 5 = ... X	.... X .... = ...	.... X .... = ...
b	2 X 4 X 6 = ... X	.... X .... = ...	.... X .... = ...
c	3 X 3 X 4 = ... X	.... X .... = ...	.... X .... = ...
d	2 X 8 X 4 = ... X	.... X .... = ...	.... X .... = ...



HOME ACTIVITIES

1 Estimate the product, then find the actual product of each of the following:

	Problem	Estimate (The actual product lies between)	Actual Product
a	8 x 7	...... X ...... = ... and ...... X ...... = ...	......
b	4 x 9	...... X ...... = ... and ...... X ...... = ...	......
c	6 x 8	...... X ...... = ... and ...... X ...... = ...	......
d	5 x 9	...... X ...... = ... and ...... X ...... = ...	......
e	3 x 9	...... X ...... = ... and ...... X ...... = ...	......
f	4 x 8	...... X ...... = ... and ...... X ...... = ...	......
g	5 x 6	...... X ...... = ... and ...... X ...... = ...	......
h	7 x 7	...... X ...... = ... and ...... X ...... = ...	......
i	2 x 4	...... X ...... = ... and ...... X ...... = ...	......
j	3 x 5	...... X ...... = ... and ...... X ...... = ...	......

2 There are 7 trees in the garden, and on the top of each tree, there are 9 birds. Estimate the number of birds on each tree.

Estimate: ....

Actual Solution: ....

3 Hossam saves 12 pounds per week.

Estimate the money that Hossam saves in 8 weeks.

Estimate: ....

Actual Solution: ....

4 Estimate the product, then solve each problem using any strategy or property that helps you:

	Problem	Front-End Estimation Strategy	Rounding to the Nearest Ten Strategy	Actual Product
a	8 x 18	....	....	8 x 18 = ... x (........ + ...) = ... + ... = ...
b	6 x 13	....	....	6 x 13 = ... x (........ + ...) = ... + ... = ...
c	3 x 19	....	....	3 x 19 = ... x (........ + ...) = ... + ... = ...
d	9 x 16	....	....	9 x 16 = ... x (........ + ...) = ... + ... = ...
e	7 x 17	....	....	7 x 17 = ... x (........ + ...) = ... + ... = ...

5 Estimate each of the following, then find the actual product:

	Problem	Estimate	Actual Product
a	3 x 4 x 5 = ... X	.... X .... = ...	.... X .... = ...
b	2 x 8 x 6 = ... X	.... X .... = ...	.... X .... = ...
c	4 x 7 x 5 = ... X	.... X .... = ...	.... X .... = ...
d	7 x 2 x 2 = ... X	.... X .... = ...	.... X .... = ...
e	4 x 8 x 6 = ... X	.... X .... = ...	.... X .... = ...
f	3 x 5 x 3 = ... X	.... X .... = ...	.... X .... = ...
g	5 x 7 x 2 = ... X	.... X .... = ...	.... X .... = ...

Worksheet 2

First: **Choose the correct answer:**

a) (4 x 5) + (4 x 7) = ... (4 x (5 x 7) or 4 x (3 x 4) or (4 x 4) x 7)

b) 5 + 5 + 5 + 5 = ... (4 x 5 or 4 + 5 or 5 x 5)

c) 7 x 3 = ... (7 + 3 or 7 + 7 + 7 or 4 x 5)

d) (5 x 3) x 4 = ... (5 x 8 x 1 or 5 x (10 x 2) or 5 x (2 x 6))

e) 7 x 18 = ... ((7 x 10) x 8 or (7 x 10) + (7 x 8) or (7 x 9) + (7 x 8))

Second: **Complete the following:**

a) 9 x 6 = ... + ... + ... + ... + ... + ...

b) 3 + 3 + 3 + 3 + 3 + 3 = 9 + ...

c) 8 x 5 = ... x 8

d) 3 x 17 = (3 x ....) + (3 x ....) = ... + ... = ...

e) 7 x 2 x 5 = ... x (.................. x ....) = ... x .... = ...

Third: **Answer the following:**

a) Amir has 4 boxes. In each box, there are 3 dolls, and each doll has 2 buttons on its shirt. How many total buttons are there?
Write an equation and solve it.

....

....

b) Dalia has 8 baskets. Each basket contains 6 eggs.
How many eggs does Dalia have in all?
Write an equation and solve it. Use an estimation strategy.

Problem	Estimation	Actual Solution



Applications on Multiplication and Division

تطبيقات على الضرب والقسمة

Remember

Time

Each dash represents one minute

Minutes Hand

Hours Hand

One hour = 60 minutes

09:07

01:23

05:49

1 Write down the time shown:

a .... : ....

b .... : ....

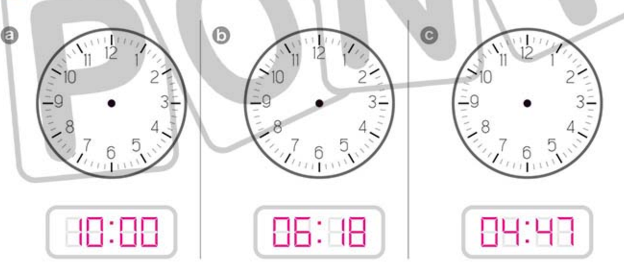
c .... : ....

d .... : ....

e .... : ....

f .... : ....

2 Draw the hands of the analog clock:





The Relationship Between Multiplication and Division

العلاقة بين الضرب والقسمة



Muhannad has 15 oranges.

He wants to divide them equally among 3 plates.

How many oranges should be on each plate?

Answer: To get the number of oranges on each plate,
divide the total number of oranges into three groups.



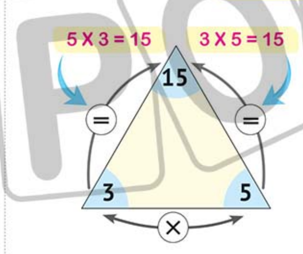
5 oranges | 5 oranges | 5 oranges

The number of oranges on each plate = 15 ÷ 3 = 5

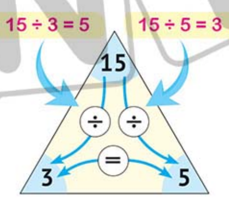
Because 5 X 3 = 15 , 3 X 5 = 15

Fact Family

5 X 3 = 15 3 X 5 = 15

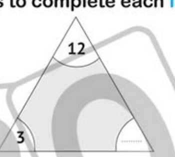


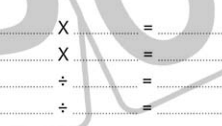
15 ÷ 3 = 5 15 ÷ 5 = 3



3 Find the missing factors in the triangles, then write the equations to complete each fact family:

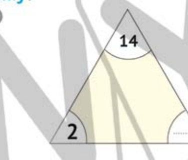
a





.... X .... = ...
.... X .... = ...
.... ÷ .... = ...
.... ÷ .... = ...

b

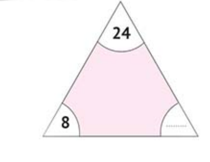




.... X .... = ...
.... X .... = ...
.... ÷ .... = ...
.... ÷ .... = ...

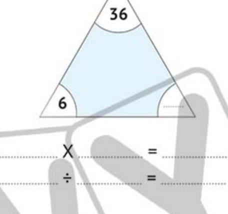


c



.... X .... = ...
.... X .... = ...
.... ÷ .... = ...
.... ÷ .... = ...

d



.... X .... = ...
.... ÷ .... = ...



4 Complete the following:

a) 6 X .... = 18 — Because → 18 ÷ 6 = ...

b) 9 X .... = 27 — Because → 27 ÷ 9 = ...

c) .... X 3 = 24 — Because → 24 ÷ 3 = ...

d) .... X 6 = 48 — Because → 48 ÷ 6 = ...

e) 4 X 8 = ... — Because → .... ÷ 8 = 4

f 3 X 4 = ... Because → .... ÷ 4 = 3

g 24 ÷ .... = 4 Because → 24 ÷ 4 = ...

h 56 ÷ .... = 8 Because → 56 ÷ 8 = ...

i .... ÷ 7 = 5 Because → 5 X 7 = ...

j .... X 9 = 54 Because → 54 ÷ 9 = ...

k 64 ÷ 8 = ... Because → .... X 8 = 64

l 15 ÷ 3 = ... Because → .... X 3 = 15

5 Fill in the missing numbers, and then match the equations that are related:

a 2 X .... = 18	1 80 ÷ .... = 8
b 7 X 4 = ...	2 18 ÷ 2 = ...
c .... X 10 = 80	3 .... ÷ 4 = 7

6 Habiba baked 25 cookies. She wanted to share them with her 5 friends.
How many cookies would each friend get?



....

7 Farha has 8 bags of marbles. Each bag has 6 marbles inside. How many marbles does Farha have altogether?



....



HOME ACTIVITIES

1 Write down the time shown:

a .... : ....

b .... : ....

c .... : ....

d .... : ....

e .... : ....

f .... : ....

g .... : ....

h .... : ....

i .... : ....

2 Draw the **hands** of the analog clock:

a





b





c



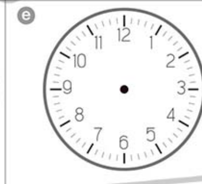
12:12

d





e



05:42

f



09:55

g





h



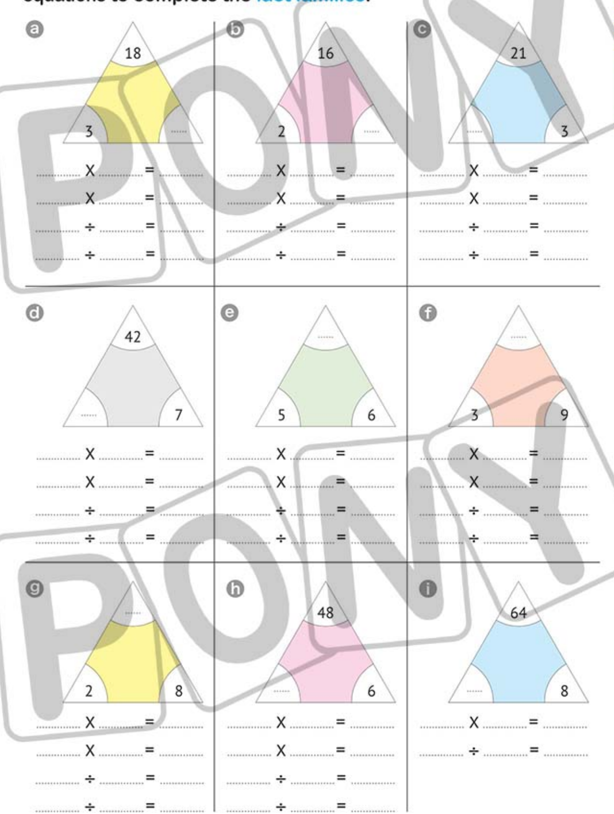
03:30

i





3 Find the missing factors in the following triangles, then write the four equations to complete the fact families:



4 Complete the following:

ⓐ 5 X .... = 35 Because → 35 ÷ 5 = ...

ⓑ 6 X .... = 36 Because → 36 ÷ 6 = ...

ⓒ .... X 7 = 63 Because → 63 ÷ 7 = ...

ⓓ .... X 8 = 56 Because → 56 ÷ 8 = ...

ⓔ 6 X 2 = ... Because → .... ÷ 2 = 6

ⓕ 3 X 7 = ... Because → .... ÷ 7 = 3

ⓖ 45 ÷ .... = 9 Because → 9 X .... = 45

ⓗ 63 ÷ .... = 7 Because → 7 X .... = 63

ⓘ .... ÷ 3 = 8 Because → 8 X 3 = ...

ⓙ .... ÷ 2 = 5 Because → 5 X 2 = ...

ⓚ 81 ÷ 9 = ... Because → .... X 9 = 81

ⓛ 54 ÷ 6 = ... Because → .... X 6 = 54

5 Fill in the missing numbers, then match the equations that are related:

ⓐ

5 X .... = 20	42 ÷ .... = 7
6 X 7 = ...	45 ÷ 5 = ...
.... X 9 = 45	.... ÷ 5 = 4

ⓑ

6 X .... = 48	24 ÷ .... = 6
3 X 8 = ...	24 ÷ 8 = ...
.... X 4 = 24	.... ÷ 6 = 8

Ⓒ

9 X .... = 18	12 ÷ .... = 6
6 X 2 = ...	12 ÷ 3 = ...
.... X 3 = 12	.... ÷ 2 = 9

6 **Habiba baked 24 cookies. She wanted to share them with 6 of her friends. How many cookies would each friend get?**



....

....

....

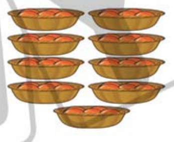
7 **Farha has 5 bags of marbles. Each bag has 7 marbles inside. How many marbles does Farha have altogether?**

....

....

....

8 **Adel picked 45 oranges. He put them equally in baskets. When he was done, he had 9 baskets. How many apples are there in each basket?**



....

....

....

9 **A teacher has 36 crayons to share equally among 6 students. What is the share of each student?**



....

....

....

Worksheet 3

First: **Choose the correct answer:**

a) If 4 x 8 =32, then 32 ÷ 8 = ... (4 or 8 or 32)

b) 42 ÷ .... = 7 (7 or 6 or 5)

c) 5 x 18 = ... (5 x 20 or 10 x 8 or 10 x 9)

d) (7 x 3) + (3 x 7) .... (6 x 14 or 7 x 9 or 7 x 6)

e) 7 + 7 + 7 + 7 + 7 = ... (5 x 7 or 7 x 7 or 7 + 7)

Second: **Complete the following:**

a) 36 ÷ 4 = ...

b) .... ÷ 7 = 9

c) (5 x 7) + (5 x 7) = 5 x ....

d) 7 x 50 = 35 x ....

e) 6 x 4 = 8 + ... + ...

Third: **Answer the following:**



a) A teacher has 21 notebooks to share equally between 3 students.

What is the share of each?

.... ÷ .... = ...



b) If the price of a book is 8 pounds, how many books can you buy if you have 40 pounds?

....

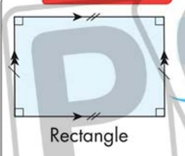
....



Perimeter of a Square and a Rectangle

محيط المربع والمستطيل





Rectangle

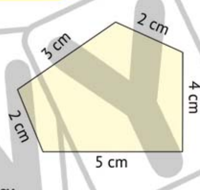
Each **two opposite sides** are **equal** and **parallel**.
كل ضلعين متقابلين متساويان ومتوازيان.

Each **two opposite sides** are **parallel** and **all sides** are **equal**.
كل ضلعين متقابلين متوازيين وكل الأضلاع متساوية.

Square

The Perimeter of Any Polygon

• Perimeter = 5 + 4 + 2 + 3 + 2 = 16 cm.

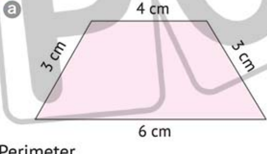


The perimeter of any polygon equals the sum of its side lengths.

محيط أي مضلع هو مجموع أطوال أضلاعه.

1 Find the perimeter of each of the following:

ⓐ



Perimeter

= .... + ... + ... + ... = ... cm.

ⓑ

5 cm

3 cm

3 cm

5 cm

Perimeter

= .... + ... + ... + ... = ... cm.

Perimeter of the Square محيط المربع



- Perimeter of the square = Sum of its side lengths

  = 6 + 6 + 6 + 6 = 24 cm.



محيط المربع = مجموع أطوال أضلاعه.

6 cm

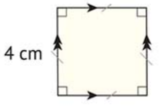
or

- Perimeter of the square = Side length X 4 = 6 X 4 = 24 cm.

  محيط المربع = طول الضلع X 4.

2 Find the perimeter of each of the following squares:

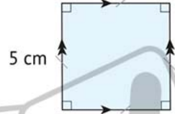
ⓐ



Perimeter = Side length X 4

= .... X 4 = ... cm.

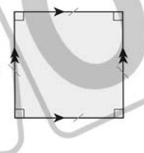
ⓑ



Perimeter = Side length X 4

= .... X 4 = ... cm.

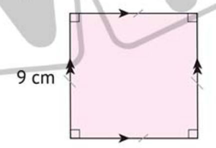
ⓒ



Perimeter = Side length X 4

= .... X 4 = ... cm.

ⓓ

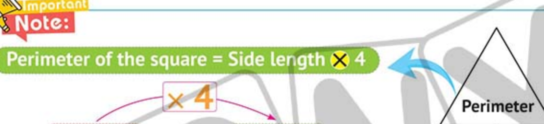


Perimeter = Side length X 4

= .... X 4 = ... cm.

Important Note:

Perimeter of the square = Side length × 4

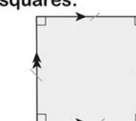


Side length of the square = Perimeter ÷ 4

Perimeter
Side Length × 4

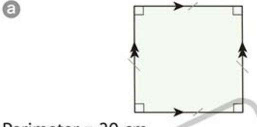
Ex. **Find the side length of each of the following squares:**

- Perimeter = 28 cm.
- Side length = 28 ÷ 4 = 7 cm.



3 **Find the side length of each of the following squares:**

ⓐ



Perimeter = 20 cm.

Side length = ... ÷ .... = ... cm.

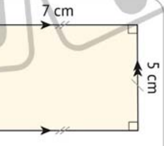
ⓑ

Perimeter = 32 cm.

Side length = ... ÷ .... = ... cm.

Perimeter of the Rectangle محيط المستطيل

Ex.



- Perimeter of the rectangle
  = Sum of its side lengths
  = 7 + 5 + 7 + 5 = 24 cm.



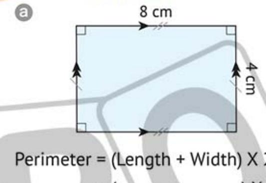
or

- Perimeter of the rectangle = (Length + Width) X 2
  = (7 + 5) X 2 = 12 X 2
  = 24 cm.

محيط المستطيل =
(الطول + العرض) X 2.

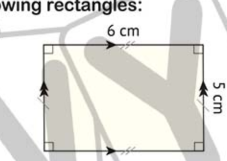
4 Find the perimeter of each of the following rectangles:

ⓐ



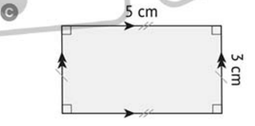
Perimeter = (Length + Width) X 2
= (.......... + ...) X 2
= .... X ....
= .... cm.

ⓑ



Perimeter = (Length + Width) X 2
= (.......... + ...) X 2
= .... X ....
= .... cm.

ⓒ



Perimeter = (Length + Width) X 2
= (.......... + ...) X 2
= .... X ....
= .... cm.

ⓓ

7 cm

6 cm

Perimeter = (Length + Width) X 2
= (.......... + ...) X 2
= .... X ....
= .... cm.

Important Note:

- **Length of the rectangle** = Half the perimeter – Width
- **Width of the rectangle** = Half the perimeter – Length

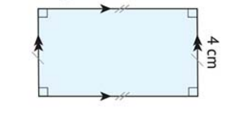
Because: **Half the perimeter of the rectangle = (Length + Width)**

5 Find the length of each of the following rectangles:

ⓐ Perimeter = 20 cm.

Length + Width = 20 ÷ 2 = ... cm.

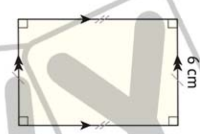
Length = ... – .... = ... cm.



b Perimeter = 28 cm.

Length + Width = ... ÷ 2 = ... cm.

Length = ... − .... = ... cm.

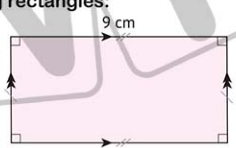


6 Find the width of each of the following rectangles:

a Perimeter = 30 cm.

Length + Width = ... ÷ 2 = ... cm.

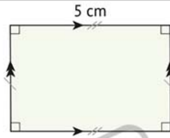
Width = ... − .... = ... cm.



b Perimeter = 16 cm.

Length + Width = ... ÷ 2 = ... cm.

Width = ... − .... = ... cm.



7 You are helping in building a fence for your neighbors' square vegetable garden. Using the image provided, how many meters of fencing will you need?



....

....

8 Your neighbors decide to show their appreciation by helping you plant and fence your rectangular garden. They give you 24 meters of fencing that they had left over. You want your garden to be 10 meters long. How wide can your garden be?



....

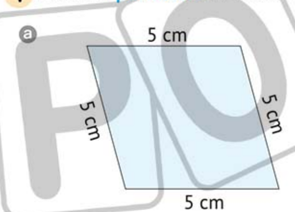
....



HOME ACTIVITIES

1 Find the **perimeter** of each of the following:

ⓐ

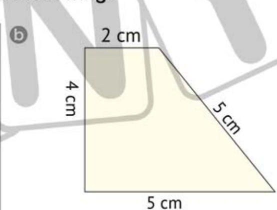


Perimeter

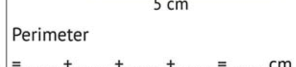


= .... + ... + ... + ... = ... cm.

ⓑ

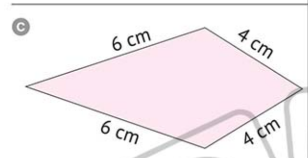


Perimeter



= .... + ... + ... + ... = ... cm.

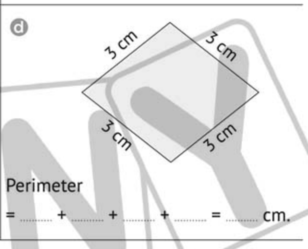
ⓒ



Perimeter

= .... + ... + ... + ... = ... cm.

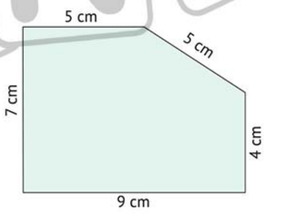
ⓓ



Perimeter

= .... + ... + ... + ... = ... cm.

ⓔ



Perimeter



= .... + ... + ... + ... + ...

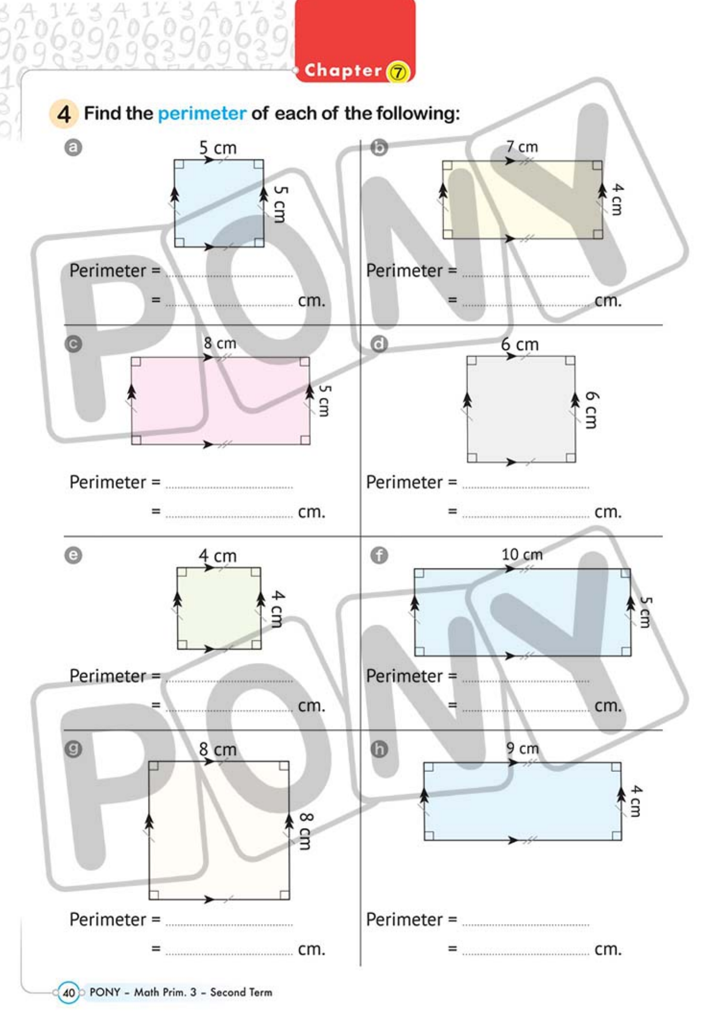
= .... cm.

2 Complete the following table:

	Side Length of the Square	Perimeter of the Square
a	7 cm	.... X .... = ... cm.
b	8 cm	.... X .... = ... cm.
c	9 cm	.... X .... = ... cm.
d	.... ÷ .... = ... cm.	20 cm
e	.... ÷ .... = ... cm.	16 cm
f	.... ÷ .... = ... cm.	24 cm

3 Complete the following table:

	Length of the Rectangle	Width of the Rectangle	Perimeter of the Rectangle
a	7 cm	5 cm	(........ + ...) X .... = ... cm.
b	9 cm	3 cm	(........ + ...) X .... = ... cm.
c	10 cm	....	26 cm
d	9 cm	....	36 cm
e	....	5 cm	22 cm
f	....	8 cm	42 cm



4 Find the perimeter of each of the following:

ⓐ

Perimeter = ...

= .... cm.

ⓑ

Perimeter = ...

= .... cm.

ⓒ

Perimeter = ...

= .... cm.

ⓓ

Perimeter = ...

= .... cm.

ⓔ

Perimeter = ...

= .... cm.

ⓕ

Perimeter = ...

= .... cm.

ⓖ

Perimeter = ...

= .... cm.

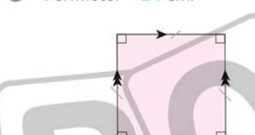
ⓗ

Perimeter = ...

= .... cm.

5 Find the side length of each of the following squares:

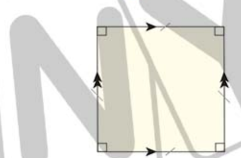
ⓐ Perimeter = 24 cm.



Side length = ... ÷ ....

= .... cm.

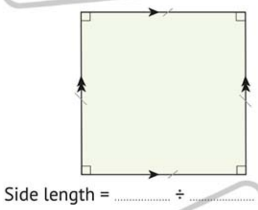
ⓑ Perimeter = 36 cm.



Side length = ... ÷ ....

= .... cm.

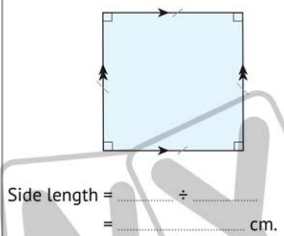
ⓒ Perimeter = 40 cm.



Side length = ... ÷ ....

= .... cm.

ⓓ Perimeter = 28 cm.



Side length = ... ÷ ....

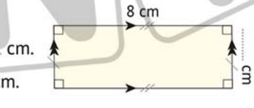
= .... cm.

6 Find the length of the missing side:

ⓐ Perimeter = 24 cm.

Length + Width = ... ÷ 2 = ... cm.

Length = ... – .... = ... cm.



ⓑ Perimeter = 14 cm.

Length + Width = ... ÷ 2 = ... cm.

Width = ... – .... = ... cm.

.... cm

2 cm

(c) Perimeter = 30 cm.

....

....

(d) Perimeter = 28 cm.

....

....

7 You are helping in building a fence for your neighbors' square vegetable garden. Using the image provided, how many meters of fencing will you need?

....

....

8 Your neighbors decide to show their appreciation by helping you plant and fence your rectangular garden. They give you 30 meters of fencing that they had left over. You want your garden to be 9 meters long. How wide can your garden be?

....

....

9 If the floor of Huda's room is a square, and its perimeter is 28 meters, then what is its side length?



....

....

Worksheet



First: **Choose the correct answer:**

a) The perimeter of a rectangle with 8 cm length and 5 cm width is .... cm. (13 or 40 or 26)

b) 7 X (5 + 3) = ... (35 + 3 or 7 X 2 X 4 or 7 + 13)

c) 3 + 3 + 3 + 3 + 3 + 3 = ... (2 X 9 or 3 X 3 or 3 + 6)

d) 2 X 30 = 6 X .... (5 or 10 or 60)

e) If the side length of a square is 10 meters, then its perimeter is .... meters. (40 or 100 or 14)

Second: **Complete the following:**

a) 6 X 18 = 6 X (............ + ...) = (............ X ....) + (............ X ....)

b) 7 X (............ X 5) = (............ X 8) X 5

c) If the perimeter of a square is 24 cm, then its side length is .... cm.

d) Perimeter of the square = Side length X ....

e) 9 X .... = 5 X ....

Third: **Answer the following:**

a) **Find:** 1) 4 X 12 = ... 2) 32 ÷ 4 = ...

3) 2 X 3 X 7 = ... 4) 63 ÷ 9 = ...

b) Find the perimeter of the following square with a side length of 7 cm.

....

....

7 cm

c) The perimeter of the following rectangle is 24 cm, and its length is 9 cm. Find its width.

....

....

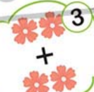
9 cm



Two-Step Story Problems

مسائل كلامية من خطوتين

Solving Story Problems



Maggie picked 2 flowers. Her mom gave her 2 more. How many flowers does she have now?

1 READ اقرأ
Read the problem to understand.

Maggie picked 2 flowers. Her mom gave her 2 more. How many flowers does she have now?

2 CONSIDER فكر
Underline the important facts and look for patterns.



3 PLAN خطط
Draw a picture, if needed, to help you solve the problem.



2+2=

4 WRITE اكتب
Write an equation of numbers for the problem.

2+2=4

5 SOLVE حل
Solve the problem. Show your steps.

6 EVALUATE قيم
Does your answer make sense? If not, try again.

Keywords









+	−	×	÷
Altogether Plus In all Add Sum Total	Subtract/Remain Difference Fewer Less than Minus How many more	Multiply Product Times Twice Total Multiplied by	Divide Quotient Goes into Each Split Equally Distribution

1 Ali earns 25 LE per week for doing all his chores. On the fourth week, he forgets to take out the trash, so he only earns 20 LE. Write and solve an equation to show how much Ali earns in the 4 weeks.

....

....

....

2 Miss Salma ordered 3 packs of markers. Each pack contains 6 markers. After passing out 1 marker to each student in her class, she has 2 markers left. How many students are there in Miss Salma's class?

....

....

....

3 Bassem bought a box containing 18 pieces of fruit. The box includes an equal number of figs, bananas, and oranges. He eats all of the figs. How many pieces of fruit does Bassem have left?

....

....

....

4 Each day, Habiba eats 10 crackers for a snack at school. On Friday, she drops 3 crackers and eats only 7. Write and solve an equation to show the total number of crackers Habiba eats during the week.

....

....

....



Detecting and Correcting Errors

Ex. Problem:

Hashem's family went on a three-day road trip. On the first day, they drove 350 kilometers. On the second day, they drove 213 kilometers. On the third day, they drove 124 kilometers.
Last year on their road trip, they drove a total of 432 kilometers.
How many more kilometers did they drive on this year's trip?

Student's Answer:

Hashem's family drove on this year's road trip = 350 + 213 + 124 = 687 km.
Hashem's family drove in all road trips = 687 + 432 = 1,119 km.

What did the student do wrong?

Adding: 687 + 432

Correct Answer:

The difference between the two trips = 687 – 432 = 255 km.

5 Problem:

Hoda had 3 bags of candy. Each bag contained 4 pieces of candy. She also had 8 pieces of candy that were not in a bag. How much candy did Hoda have in all?

Student's Answer:

Hoda had 12 pieces of candy in all.
First, I figured out what she had in the bags, and then I took away what she had that was not in the bag.

What did the student do wrong?

Correct Answer:

6 **Read and use two different strategies to solve each problem.**

a) The park has 152 trees. There are 88 fig trees.

The rest of the trees are palm trees.

How many more fig trees are there than palm trees?

First Strategy	Second Strategy

b) There are 17 young crocodiles and 19 adult crocodiles in a zoo.

The crocodiles are placed equally into 4 areas.

How many crocodiles are there in each area?

First Strategy	Second Strategy



HOME ACTIVITIES

1 Answer the following:

a) Laila bought 24 seeds, and she has 5 pots. She wants to plant three seeds in each pot. How many more pots does Laila need to plant all of her seeds?

....

....

....

b) I have a bag with pens and markers inside. The objects in my bag have a mass of 100 grams in all. There are 4 pens, each with a mass of 15 grams. How many markers do I have in my bag if each marker has a mass of 20 grams?

....

....

....

c) Omar had 40 movie tickets. He kept 10 tickets, then distributed the rest equally among 10 of his friends. How many tickets did each friend get?

....

....

....

d) If the number of boys in a class is 9, and the number of girls is twice the number of boys, how many students are there in the class?

....

....

....

2 Detect and correct the error:

Problem:

Mrs. Mariam baked 24 chocolate chip cookies.
She divided the cookies equally into 4 containers. Then, she baked more cookies so that she could put 4 more cookies in each container. How many cookies are there in each container?

Student's Answer:

There are 7 cookies in each container; 6 cookies from the first batch she made and 1 cookie from the second batch she made.

What did the student do wrong?

Correct Answer:

3 Detect and correct the error:

Problem:

Emad earned money for completing extra chores. He earned 8 LE per hour cleaning the bedrooms. He worked for 3 hours.
He also earned an extra 16 LE for vacuuming the entire house.
How much money did Emad earn?

Student's Answer:

Emad earned 24 LE for completing the chores. He earned 8 LE cleaning the bedrooms and then 16 LE for vacuuming the house.

What did the student do wrong?

Correct Answer:

4 **Read and use two different strategies to solve each problem:**

ⓐ A lamp needs 4 batteries for lighting.
How many batteries do you need for 12 lamps?

First Strategy	Second Strategy
....	....
....	....
....	....

ⓑ Ahmed has 12 kg of grapes and 8 kg of apples.
If he wants to put these fruits together in 4 bags,
what is the mass of each bag?

First Strategy	Second Strategy
....	....
....	....
....	....

ⓒ A bag contains 4 black pencils of 10 grams each, and 4 colored pencils of 8 grams each. Find the total mass of all the pencils.

First Strategy	Second Strategy
....	....
....	....
....	....

Worksheet 5

First: **Choose the correct answer:**

a The greatest 5-different-digit number is ....
(99,999 or 98,765 or 90,000)

b 8 + 8 + 8 = ... (8 + 3 or 8 x 8 or 6 x 4)

c 6 x 20 = ... (12 x 10 or 8 x 10 or 70 x 10)

d (4 x 5) + (6 x 5) = ... (24 x 25 or 24 x 5 or 10 x 5)

e 69 Thousands + 25 Tens = ... (69,025 or 69,250 or 6,925)

Second: **Complete the following:**

a 8 x (5 x 10) = 8 x .... = ...

b 4 x 9 = ... + ... + ... + ...

c The area of a square with 8 cm side length is .... cm^2.

d 5 x 19 = (......... x ....) + (......... x ....)

e An hour = ... minutes.

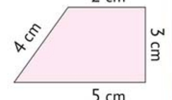
Third: **Answer the following:**

a In the pet store, there are 6 cages with 5 big birds and 3 little birds in each cage. What is the total number of birds in the cages?

....

....

b Find the perimeter of the opposite figure.



....

....



1 Children and candy:



- Write a division problem that shows how 36 candies can be divided equally among:

a 3 children
.... ÷ .... = ...

b 6 children
.... ÷ .... = ...

c 9 children
.... ÷ .... = ...

2 Number of legs:

- Complete the following table: (The spider has 8 legs.)

Legs	0	2	4	6	8	12	16	24	32	40	48	56	64	72	80
People	0	1	2	3	4										
Chairs	0	–	1	–	2										
Spiders	0	–	–	–	1										

Answers

1 a 36 ÷ 3 = 12 b 36 ÷ 6 = 6 c 36 ÷ 9 = 4

2 People → 0, 1, 2, 3, 4, 6, 8, 12, 16, 20, 24, 28, 32, 36, 40
Chairs → 0, –, 1, –, 2, 3, 4, 6, 8, 10, 12, 14, 16, 18, 20
Spiders → 0, –, –, –, 1, –, 2, 3, 4, 5, 6, 7, 8, 9, 10



Chapter Lessons

Lessons 1–3 Exploring Unit Fractions Applications on Unit Fractions Using Models

Outcomes:

- Investigating the relationship between parts and wholes in fractions.
- Defining the word "fraction" in relation to parts and wholes.
- Creating models to represent fractions.
- Describing one part of a whole using fraction vocabulary.
- Defining unit fractions.
- Discussing fractions terms: numerator, denominator, and unit fraction.
- Reasoning with fractions in real-life applications using models.
- Writing a fraction story problem using models.

Lessons 4–6 Comparing Unit Fractions Using Models & Expressing One as Unit Fractions

Outcomes:

- Comparing different unit fractional parts of the same whole using models.
- Explaining the relationship between the size of the denominator and the size of the fraction as it relates to the whole.
- Explaining why the size of the whole matters when comparing two unit fractions.
- Writing one whole as a fraction.
- Explaining how to write one whole as a fraction.

Lessons 7–9 The Relation Between Fractions and Division Applications on Fractions

Outcomes:

- Investigating the relationship between fractions and division using models.
- Dividing a set into equal parts.
- Determining the quantity in each fractional part of a set.
- Explaining the relationship between fractions and division.
- Reasoning with fractions in real-life applications.

Key Vocabulary

- Equal parts
- Halves
- Sixths
- Numerator
- Divide
- Whole
- Thirds
- Eighths
- Greater than
- Division
- Fair shares
- Fourths
- Unit fraction
- Less than
- Fraction
- Fifths
- Denominator
- Set





Lessons 1–3 Exploring Unit Fractions
Applications on Unit Fractions Using Models

استكشاف كسور الوحدة – تطبيقات على كسور الوحدة باستخدام النماذج

Fractions

They're the equal parts that we get as a result of dividing a whole unit or thing into equal parts.

4 equal parts
They **are** fourths.

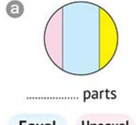


4 unequal parts
They **are not** fourths.



1 **Write the number of parts in each of the following shapes, then choose equal or unequal:**

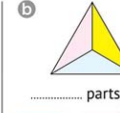
(a)



.... parts

Equal Unequal

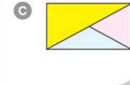
(b)



.... parts

Equal Unequal

(c)



.... parts

Equal Unequal

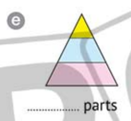
(d)



.... parts

Equal Unequal

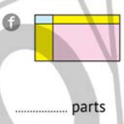
(e)



.... parts

Equal Unequal

(f)



.... parts

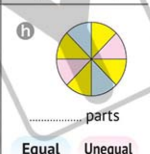
Equal Unequal

(g)

.... parts

Equal Unequal

(h)



.... parts

Equal Unequal

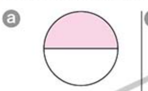
Fractions as Parts of a whole:

Numerator
The number of parts you have.
Shaded Parts
البسط: العدد الذي يمثل الجزء المظلل.



Denominator
The number of parts in a whole.
All Parts
المقام: العدد الذي يمثل العدد الكلي للأجزاء.

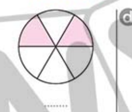
2 **Write the fraction that represents the shaded parts:**

ⓐ 

$\frac{\dots}{\dots}$

ⓑ 

$\frac{\dots}{\dots}$

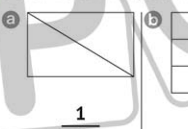
ⓒ 

$\frac{\dots}{\dots}$

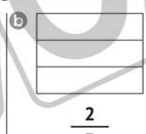
ⓓ 

$\frac{\dots}{\dots}$

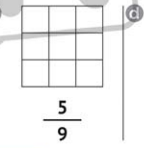
3 **Color according to the fraction:**

ⓐ 

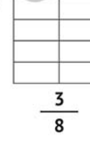
$\frac{1}{2}$

ⓑ 

$\frac{2}{3}$

ⓒ 

$\frac{5}{9}$

ⓓ 

$\frac{3}{8}$

Unit Fraction

- It is a fraction that has the digit 1 as the numerator.

كسر الوحدة: هو كسر بسطه 1.

Number of Equal Parts	One Part (Unit Fraction)	Fraction in Pictures and Numbers
1 part		One Whole
2 parts	$\frac{1}{2}$, A half	$\frac{1}{2}$ | $\frac{1}{2}$
3 parts	$\frac{1}{3}$, A third	$\frac{1}{3}$ | $\frac{1}{3}$ | $\frac{1}{3}$
4 parts	$\frac{1}{4}$, A fourth	$\frac{1}{4}$ | $\frac{1}{4}$ | $\frac{1}{4}$ | $\frac{1}{4}$
5 parts	$\frac{1}{5}$, A fifth	$\frac{1}{5}$ | $\frac{1}{5}$ | $\frac{1}{5}$ | $\frac{1}{5}$ | $\frac{1}{5}$
6 parts	$\frac{1}{6}$, A sixth	$\frac{1}{6}$ | $\frac{1}{6}$ | $\frac{1}{6}$ | $\frac{1}{6}$ | $\frac{1}{6}$ | $\frac{1}{6}$
7 parts	$\frac{1}{7}$, A seventh	$\frac{1}{7}$ | $\frac{1}{7}$ | $\frac{1}{7}$ | $\frac{1}{7}$ | $\frac{1}{7}$ | $\frac{1}{7}$ | $\frac{1}{7}$

Reading Fractions

Ex.

$\frac{2}{3}$ = Two-thirds

$\frac{3}{4}$ = Three-fourths

$\frac{5}{7}$ = Five-sevenths

$\frac{8}{9}$ = Eight-ninths

4 Write the fractions in words:

ⓐ $\frac{1}{3}$ = ...

ⓑ $\frac{3}{7}$ = ...

ⓒ $\frac{2}{5}$ = ...

ⓓ $\frac{5}{8}$ = ...

5 Write the fractions in digits:

ⓐ Three-fourths = $\frac{\dots}{\dots}$

ⓑ Five-sixths = $\frac{\dots}{\dots}$

ⓒ Two-ninths = $\frac{\dots}{\dots}$

ⓓ A half = $\frac{\dots}{\dots}$

6 Use fraction models to represent the following situations, then write the value of each fraction, as in the example:

Ex. Noran has a long loaf of bread.
She wants to share it with 2 of her friends.

$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$

ⓐ Rami has a long piece of wood. He needs to cut it into enough pieces to share with his 7 friends.

ⓑ Samir had a candy bar. He took 2 days to eat it and ate the same amount each day. On Monday, he ate 1 piece.
On Tuesday, he ate 1 more piece.





HOME ACTIVITIES

1 **Write the number of parts in each of the following shapes, then choose equal or unequal:**

a .... parts Equal or Unequal	b .... parts Equal or Unequal	c .... parts Equal or Unequal	d .... parts Equal or Unequal
e .... parts Equal or Unequal	f .... parts Equal or Unequal	g .... parts Equal or Unequal	h .... parts Equal or Unequal
i .... parts Equal or Unequal	j .... parts Equal or Unequal	k .... parts Equal or Unequal	l .... parts Equal or Unequal
m .... parts Equal or Unequal	n .... parts Equal or Unequal	o .... parts Equal or Unequal	p .... parts Equal or Unequal
q .... parts Equal or Unequal	r .... parts Equal or Unequal	s .... parts Equal or Unequal	t .... parts Equal or Unequal



2 Write the fraction that represents the shaded parts:

a ------ / ------

b ------ / ------

c ------ / ------

d ------ / ------

e ------ / ------

f ------ / ------

g ------ / ------

h ------ / ------

i ------ / ------

3 Color according to the fraction:

a $\frac{5}{6}$

b $\frac{1}{2}$

c $\frac{2}{3}$

d $\frac{5}{9}$

e $\frac{4}{7}$

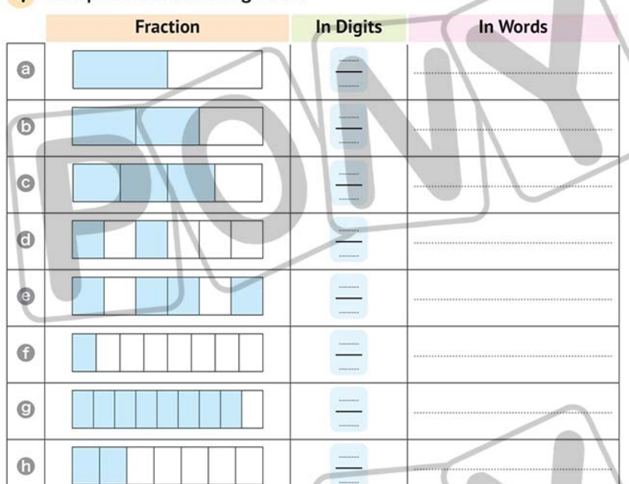
f $\frac{3}{6}$

g $\frac{2}{10}$

h $\frac{2}{4}$

i $\frac{7}{9}$

4 Complete the following table:



	Fraction	In Digits	In Words
a		...... /	....
b		...... /	....
c		...... /	....
d		...... /	....
e		...... /	....
f		...... /	....
g		...... /	....
h		...... /	....

5 Write the fraction in words:

a. $\frac{1}{3}$ = ...

b. $\frac{2}{3}$ = ...

c. $\frac{3}{4}$ = ...

d. $\frac{4}{5}$ = ...

e. $\frac{5}{6}$ = ...

f. $\frac{6}{7}$ = ...

g. $\frac{7}{8}$ = ...

h. $\frac{8}{9}$ = ...

i. $\frac{1}{4}$ = ...

j. $\frac{2}{5}$ = ...

6 **Write the fraction in digits:**

ⓐ A half = ...

ⓑ Two-fourths = ...

ⓒ Three-fifths = ...

ⓓ Two-sixths = ...

ⓔ Four-sevenths = ...

ⓕ One-eighth = ...

ⓖ Three-ninths = ...

ⓗ Two-thirds = ...

ⓘ Five-fifths = ...

ⓙ One-fourth = ...

7 **Use fractional models to represent the following situations, then write the value of each fraction:**

ⓐ Rami has a long piece of wood. He needs to cut it into enough pieces to share with his seven friends.

ⓑ Samir had a candy bar. He took 2 days to eat it and ate the same amount each day. On Monday, he ate 1 piece. On Tuesday, he ate 1 more piece.

ⓒ To make a garage for his toy truck, Kamal bends a rectangular piece of cardboard in half. He then bends each half in half again.

ⓓ Kamal bends a different piece of cardboard in thirds. He then bends each third in half again.

ⓔ Noran has a long loaf of bread. She wants to share it with 2 of her friends.

Worksheet 

First: **Choose the correct answer:**

a) Three-fifths = ... ($\frac{3}{5}$ or $\frac{5}{3}$ or $\frac{3}{8}$)

b) 8 x .... = 72 (6 or 9 or 12)

c) 25,025 = 25 + ... (25 or 250 or 25,000)

d) (2 x 3) + (2 x 3) = 2 x .... ((3 x 3) or (3 + 3) or (3 – 3))

e) 4 x (5 x 2) = ... ((4 x 5) + 2 or (4 x 2) x 2 or (4 x 5) x 2)

Second: **Complete the following:**

a) $\frac{2}{7}$ = ... **(In words)**

b) 6 + 6 + 6 + 6 + 6 + 6 = ... x ....

c) 8 x 6 = ... + ... + ... + ... + ... + ...

d) 50,000 + 2,000 + 300 + 20 + 4 = ...

e) 2 hours = ... minutes.

Third: **Answer the following:**

a) Find the **area** and **perimeter** of the following square:

← 3 cm →

Area = ... sq. cm.

Perimeter = ... cm.

b) Write the **fraction** of the shaded parts in **digits** and **words**:

1) $\frac{\dots}{\dots}$ = (................................)

2) $\frac{\dots}{\dots}$ = (................................)

c) Nada has **42** LE. If the price of one soda can is **6** LE, how many soda cans can she buy?

....



Comparing Unit Fractions Using Models
Expressing One as Unit Fractions

مقارنة كسور الوحدة باستخدام النماذج – التعبير عن الواحد الصحيح بكسور الوحدة

Ex.

$\frac{1}{4}$

$\frac{1}{3}$

$\frac{1}{4} < \frac{1}{3}$

The fraction with the lesser denominator is greater.

الكسر ذو المقام الأصغر هو الكسر الأكبر.

The Relationship Between Unit Fractions

$\frac{1}{2}$	$\frac{1}{2}$							
$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$						
$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$					
$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$				
$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$			
$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$		
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	
$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$

$\frac{1}{2} > \frac{1}{3} > \frac{1}{4} > \frac{1}{5} > \frac{1}{6} > \frac{1}{7} > \frac{1}{8} > \frac{1}{9}$

1 Write the fractions, then compare using "<, =, or >":

ⓐ

$\frac{\dots\dots}{\dots\dots}$ ☐ $\frac{\dots\dots}{\dots\dots}$

ⓑ

$\frac{\dots\dots}{\dots\dots}$ ☐ $\frac{\dots\dots}{\dots\dots}$

ⓒ

$\frac{\dots\dots}{\dots\dots}$ ☐ $\frac{\dots\dots}{\dots\dots}$

ⓓ

$\frac{\dots\dots}{\dots\dots}$ ☐ $\frac{\dots\dots}{\dots\dots}$



2 **Compare using "<, =, or >":**

ⓐ $\frac{1}{2}$ ☐ $\frac{1}{4}$

ⓑ $\frac{1}{5}$ ☐ $\frac{1}{7}$

ⓒ $\frac{1}{3}$ ☐ $\frac{1}{7}$

ⓓ $\frac{1}{9}$ ☐ $\frac{1}{5}$

ⓔ $\frac{1}{4}$ ☐ $\frac{1}{2}$

ⓕ $\frac{1}{8}$ ☐ $\frac{1}{8}$

Important Note:

$$1 > \frac{1}{2} > \frac{1}{3} > \frac{1}{4} > \frac{1}{5} > \frac{1}{6} > \frac{1}{7} > \frac{1}{8} > \frac{1}{9}$$

3 **Arrange the following fractions in an ascending order:**

$\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{7}$, $\frac{1}{6}$

.... , ... , ... , ...

4 **Arrange the following fractions in a descending order:**

$\frac{1}{8}$, $\frac{1}{9}$, $\frac{1}{3}$, $\frac{1}{2}$

.... , ... , ... , ...



Which is more?

Half of an orange or half of a watermelon?



$\frac{1}{2}$ < $\frac{1}{2}$



Fourth of a day or fourth of an hour?

$\frac{1}{4}$ of a day > $\frac{1}{4}$ of an hour

(6 hours) (15 minutes)



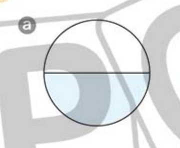
Fractions are not equal if the units are not equal.
Fractions are not equal if the sets are not equal in number.

الكسور لا تتساوى إذا كانت الوحدات غير متساوية.

الكسور لا تتساوى إذا كانت المجموعات أعدادها غير متساوية.

5 **Write the fractions, then compare using "<, =, or >":**

ⓐ

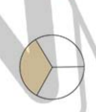




$\frac{\dots}{\dots}$ ☐ $\frac{\dots}{\dots}$

ⓑ







$\frac{\dots}{\dots}$ ☐ $\frac{\dots}{\dots}$

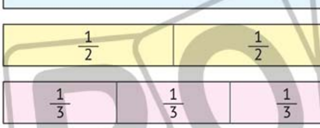
ⓒ Half a minute ☐ Half an hour

ⓓ Half an orange ☐ Half a watermelon



Writing One Whole as a Fraction

One Whole



$\frac{1}{2}$	$\frac{1}{2}$

⇨ $\frac{2}{2} = 1$ [Two-halves]

$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$

⇨ $\frac{3}{3} = 1$ [Three-thirds]

$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$

⇨ $\frac{4}{4} = 1$ [Four-fourths]

$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$	$\frac{1}{5}$

⇨ $\frac{5}{5} = 1$ [Five-fifths]

$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$

⇨ $\frac{6}{6} = 1$ [Six-sixths]

$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$	$\frac{1}{7}$

⇨ $\frac{7}{7} = 1$ [Seven-sevenths]

$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$

⇨ $\frac{8}{8} = 1$ [Eight-eighths]

$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$

⇨ $\frac{9}{9} = 1$ [Nine-ninths]

Important Note:

$$1 = \frac{2}{2} = \frac{3}{3} = \frac{4}{4} = \frac{5}{5} = \frac{6}{6} = \frac{7}{7} = \frac{8}{8} = \frac{9}{9}$$

6 Answer the following questions:

a. How many thirds make one whole? ....-thirds

b. How many sixths make one whole? ....-..................

c. How many ninths make one whole? ....-..................



HOME ACTIVITIES

1 Write the fractions, then compare using (<, =, or >):

a

b

c

d

e

f

g

h

2 **Compare using (<, =, or >):**

ⓐ $\frac{1}{2}$ ☐ $\frac{1}{6}$	ⓑ $\frac{1}{3}$ ☐ $\frac{1}{7}$	ⓒ $\frac{1}{4}$ ☐ $\frac{1}{8}$
ⓓ $\frac{1}{5}$ ☐ $\frac{1}{9}$	ⓔ $\frac{1}{6}$ ☐ $\frac{1}{2}$	ⓕ $\frac{1}{7}$ ☐ $\frac{1}{3}$
ⓖ $\frac{1}{8}$ ☐ $\frac{1}{4}$	ⓗ $\frac{1}{3}$ ☐ 1 whole	ⓘ $\frac{1}{2}$ ☐ $\frac{1}{8}$
ⓙ $\frac{1}{9}$ ☐ $\frac{1}{7}$	ⓚ $\frac{1}{4}$ ☐ $\frac{1}{6}$	ⓛ $\frac{1}{5}$ ☐ $\frac{1}{5}$
ⓜ $\frac{1}{6}$ ☐ $\frac{1}{4}$	ⓝ $\frac{1}{9}$ ☐ $\frac{1}{3}$	ⓞ $\frac{1}{8}$ ☐ $\frac{1}{8}$

3 **Arrange the following numbers in an ascending order:**

ⓐ $\frac{1}{9}$, $\frac{1}{3}$, $\frac{1}{7}$, $\frac{1}{5}$ **The order :** .... , ... , ... , ...

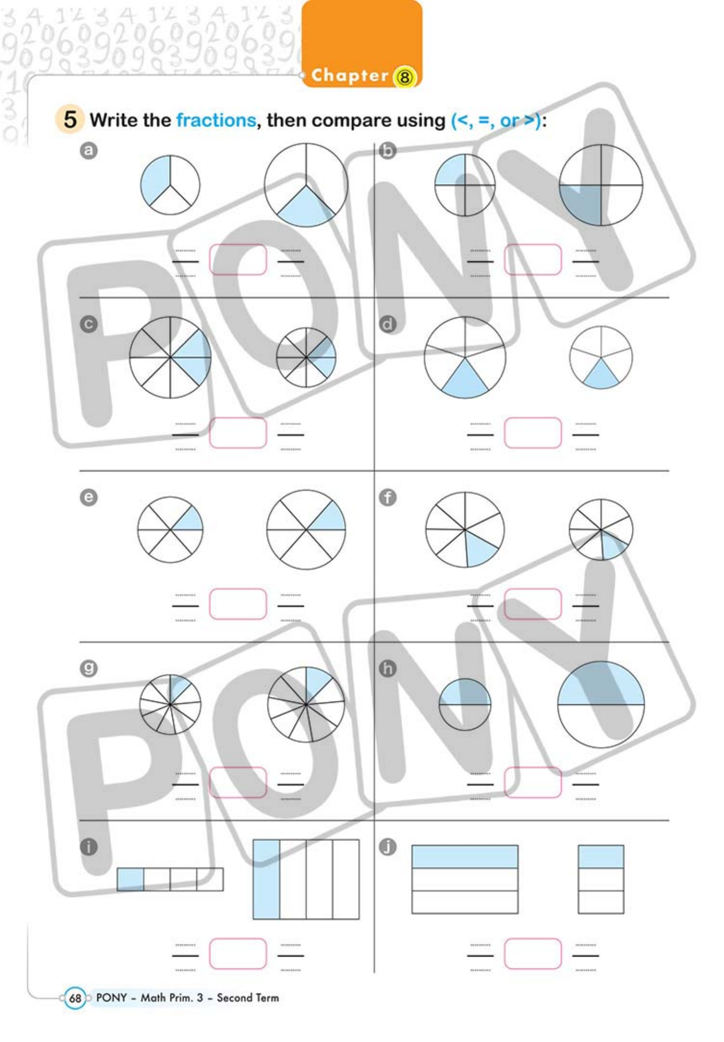
ⓑ $\frac{1}{4}$, 1 , $\frac{1}{2}$, $\frac{1}{6}$ **The order :** .... , ... , ... , ...

4 **Arrange the following numbers in a descending order:**

ⓐ $\frac{1}{6}$, $\frac{1}{9}$, 1 , $\frac{1}{7}$ **The order :** .... , ... , ... , ...

ⓑ $\frac{1}{3}$, $\frac{1}{8}$, $\frac{1}{5}$, $\frac{1}{4}$ **The order :** .... , ... , ... , ...

5 Write the fractions, then compare using (<, =, or >):



6 Choose the correct answer:

a Which is longer?	Half of lunchtime	or	Half of Saturday
b Which is longer?	Half of a minute	or	Half of an hour
c Which is bigger?	Half of an orange	or	Half of a watermelon
d Which is bigger?	Half of a cookie	or	Half of a cake
e Which holds more?	Half of a glass of water	or	Half of a swimming pool
f Which is more?	Half of a liter	or	Half of a milliliter

7 Answer the following questions:

a How many halves make one whole? ....-halves

b How many fourths make one whole? ....-fourths

c How many sixths make one whole? ....-............

d How many eighths make one whole? ....-............

e How many tenths make one whole? ....-............

f How many thirds make one whole? ....-............

g How many fifths make one whole? ....-............

h How many sevenths make one whole? ....-............

i How many ninths make one whole? ....-............

8 Complete:

- $1 = \frac{2}{\cdots} = \frac{\cdots}{3} = \frac{4}{\cdots} = \frac{\cdots}{5} = \frac{6}{\cdots} = \frac{7}{\cdots} = \frac{\cdots}{8} = \frac{9}{\cdots}$

9 Two friends baked you a cake in two different-sized pans.
One cake is chocolate and one cake is vanilla.
If you eat $\frac{1}{3}$ of the chocolate cake and $\frac{1}{3}$ of the vanilla cake, will you eat the same amount of each cake?
Draw a picture and explain how $\frac{1}{3}$ of each cake could be a different amount.



$\frac{1}{3}$ of the chocolate cake



$\frac{1}{3}$ of the vanilla cake

10 Rania needs $\frac{1}{3}$ L of oil and $\frac{1}{4}$ L of water to make a large batch of muffins. Will Rania use more oil or more water?
Compare and explain your answer using pictures, numbers, and words below.

$\frac{1}{3}$ L of oil

$\frac{1}{4}$ L of water



$\frac{1}{3}$  $\frac{1}{4}$

Worksheet 2

First: **Choose the correct answer:**

a) Seven-ninths = ... ($\frac{7}{16}$ or $\frac{9}{7}$ or $\frac{7}{9}$)

b) 4 + 4 + 4 = ... (4 X 4 or 4 + 3 or 6 X 2)

c) 42 X 10 = ... (6 X (7 X 10) or (4 + 2) X 10 or (40 + 2) + 10)

d) 4 X 18 = ... (4 X (10 X 8) or (4 X 10) + 8 or 4 X (10 + 8))

e) $\frac{1}{7}$ ◯ $\frac{1}{5}$ (< or = or >)

Second: **Complete the following:**

a) 5 X (3 X 7) = (5 X ....) X ....

b) 500 Hundreds = ... Thousands.

c) 5 X (8 + 9) = (5 X ....)+ (5 X ....) = ... + ... = ...

d) The **value** of the digit 3 in 563,752 is ....

e) $\frac{5}{8}$ = ... **(In words)**

Third: **Answer the following:**

a) **A rectangular window with a perimeter of 12 meters and a length of 4 meters. What is the width of the window?**

....

....

b) **Zeiad has a piece of cloth. He divided it into five equal parts and gave his sister two parts.**
Write the fraction for the parts remaining with Zeiad.

....

c) **Hoda wants to distribute 30 candy pieces equally among 6 of her friends.**
How many pieces of candy does each friend take?

....





The Relation Between Fractions and Division Applications on Fractions

العلاقة بين الكسور والقسمة – تطبيقات حياتية على الكسور

Mohamed has 12 apples. If he divides the apples equally among 4 friends, how many apples will each friend get?

- **Dividing 12 apples means dividing the apples into four equal parts:**

12 apples

$\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$

3 apples 3 apples 3 apples 3 apples

Each basket contains: 3 apples , $\frac{1}{4}$ of the apples

$\frac{1}{4}$ of 12 = 12 ÷ 4 = 3

Ex.

$\frac{1}{3}$ of 18 = 18 ÷ 3 = 6

$\frac{1}{6}$ of 48 = 48 ÷ 6 = 8

$\frac{1}{5}$ of 20 = 20 ÷ 5 = 4

$\frac{1}{8}$ of 48 = 48 ÷ 8 = 6

1 **Complete:**

a) 40 ÷ 5 = ...

b) 24 ÷ 4 = ...

c) 12 ÷ 6 = ...

d) 81 ÷ 9 = ...

e) 36 ÷ 6 = ...

f) 60 ÷ 6 = ...

g) $\frac{1}{2}$ of 16 = ... ÷ .... = ...

h) $\frac{1}{3}$ of 15 = ... ÷ .... = ...

i) $\frac{1}{4}$ of 32 = ... ÷ .... = ...

j) $\frac{1}{6}$ of 6 = ... ÷ .... = ...

k) $\frac{1}{5}$ of 35 = ... ÷ .... = ...

l) $\frac{1}{9}$ of 36 = ... ÷ .... = ...

2 **Omar bought a 12-cans pack of soda to give equally to his 6 guests. How many cans of soda will each guest receive? Write your answer as a division problem and as a fraction of the 12-cans pack.**

....

....

....

Remember

1 hour = 60 minutes

$\frac{1}{2}$ hour = 30 minutes

$\frac{1}{3}$ hour = 20 minutes

$\frac{1}{4}$ hour = 15 minutes

3 Heba and Amira walk to school together. It takes Heba $\frac{1}{2}$ an hour to walk to Amira's house. It takes Heba and Amira $\frac{1}{4}$ an hour to walk to school together.

How many minutes in all does it take Heba to walk to school?

Solve the problem and explain your answer.

....

....

....

4 Who ate the most...? Draw a model to explain your answer.

ⓐ Menna ate $\frac{1}{2}$ of a pizza, and Mariam ate $\frac{1}{3}$ of a pizza.



$\frac{1}{2}$ ☐ $\frac{1}{3}$

.... ate the most.

ⓑ Ahmed ate $\frac{1}{6}$ of a watermelon, and Bassem ate $\frac{1}{9}$ of a watermelon.



$\frac{1}{6}$ ☐ $\frac{1}{9}$

.... ate the most.



HOME ACTIVITIES

1 **Complete:**

a) 24 ÷ 4 = ...	b) 35 ÷ 5 = ...	c) .... ÷ 4 = 8
d) .... ÷ 6 = 3	e) 14 ÷ .... = 7	f) 72 ÷ .... = 9
g) 90 ÷ 10 = ...	h) 12 ÷ 2 = ...	i) 48 ÷ 6 = ...
j) .... ÷ 6 = 7	k) .... ÷ 9 = 9	l) 36 ÷ .... = 4
m) 21 ÷ .... = 3	n) 22 ÷ .... = 11	

2 **Complete:**

a) $\frac{1}{2}$ of 20 = ... ÷ .... = ...

b) $\frac{1}{3}$ of 12 = ... ÷ .... = ...

c) $\frac{1}{4}$ of 28 = ... ÷ .... = ...

d) $\frac{1}{5}$ of 35 = ... ÷ .... = ...

e) $\frac{\dots}{\dots}$ of .... = 54 ÷ 6 = ...

f) $\frac{\dots}{\dots}$ of .... = 63 ÷ 7 = ...

g) $\frac{\dots}{\dots}$ of .... = 64 ÷ 8 = ...

3 **Omar bought a 24-cans pack of soda to divide them equally among his eight guests. How many cans of soda will each guest receive? Write your answer as a division problem and as a fraction of the 24-cans pack.**

....

....

4 **Khaled distributed 24 fish evenly over 3 tanks. What is the number of fish in each tank? What is the fraction of the number of fish in each tank?**

....

....

5 Maryam distributed 45 books equally on 5 shelves. How many books are there on each shelf? What is the fraction of the number of books on each shelf?

....

....

6 Ahmed walks for $\frac{1}{3}$ hour every day and continues for $\frac{1}{4}$ hour more. How many minutes does Ahmed take to walk?

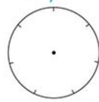
$\frac{1}{3}$ of an hour = ... minutes.

$\frac{1}{4}$ of an hour = ... minutes.

....

7 Who ate the most...? Draw a model to explain your answer:

ⓐ Islam ate $\frac{1}{7}$ of a cake, and Hoda ate $\frac{1}{5}$ of a cake.

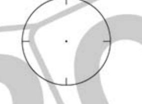


$\frac{1}{7}$ ☐ $\frac{1}{5}$



.... ate the most.

ⓑ Marwan ate $\frac{1}{4}$ of a piece of chocolate, and Basma ate $\frac{1}{3}$ of a piece of chocolate.



$\frac{1}{4}$ ☐ $\frac{1}{3}$

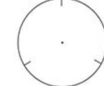


.... ate the most.

ⓒ Ahmed ate $\frac{1}{2}$ of an orange, and Bassem ate $\frac{1}{3}$ of an orange.



$\frac{1}{2}$ ☐ $\frac{1}{3}$



.... ate the most.

Worksheet 3

First: Choose the correct answer:

a) The number of sixths in one whole is ....
(1 or 5 or 6)

b) $5 \times (6 \times 2) =$ .... (5×8 or $5 \times (10 + 2)$ or 30×6)

c) .... $\div 6 = 8$ (48 or 14 or 24)

d) $6 + 6 + 6 + 6 =$ .... ($6 + 4$ or $2 \times 3 \times 4$ or 6×6)

e) The **value** of the digit 7 in 57,893 is ....
(70,000 or 7,000 or 700)

Second: Complete the following:

a) $9 \times (4 + 5) = ($ .... $\times 4) + ($ .... $\times 5) =$ .... + ... = ...

b) $\frac{1}{4}$ hour = ... minutes.

c) 500 Hundreds = ... Tens.

d) $\frac{1}{5}$ of 40 = ...

e) $1 = \frac{\dots}{9}$

Third: Answer the following:

a) Arrange the following numbers in an ascending order:

$$\frac{1}{9}, 1, \frac{1}{4}, \frac{1}{7}$$

.................., ..., ..., ...

b) Mahmoud studied mathematics for $\frac{1}{3}$ hour. Then, he studied Arabic for $\frac{1}{4}$ hour. Which subject did he spend more time studying?

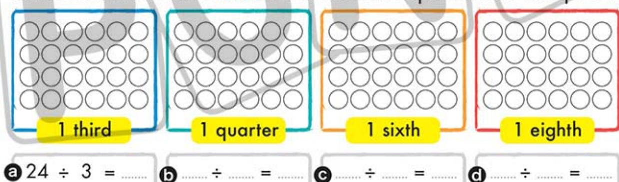
....

....



1 Circles:

Color the correct number of circles. Write a division equation under each picture:

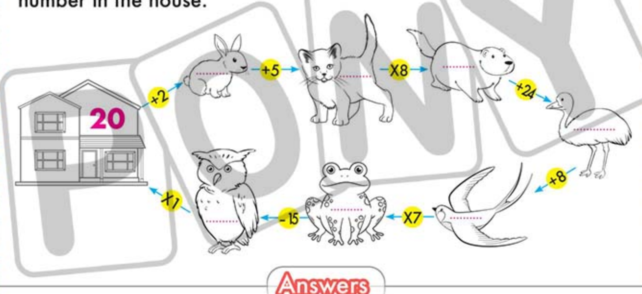


(a) 24 ÷ 3 = ... (b) .... ÷ .... = ... (c) .... ÷ .... = ... (d) .... ÷ .... = ...

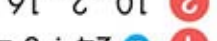
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2 Write the number:

Follow the arrows, do what they tell you, and write the final number in the house.



Answers



1 (a) 24 ÷ 3 = 8 (b) 24 ÷ 4 = 6 (c) 24 ÷ 6 = 4 (d) 24 ÷ 8 = 3

2 10 , 2 , 16 , 40 , 5 , 35 , 20

Chapter 9



Chapter Lessons

Lesson 1 Representing Fractions on a Number Line

Outcomes:

- Using models to show fractions on a number line.
- Showing fractions on a number line to solve story problems.
- Given a fraction, explaining the relationship between the number of equal parts on a number line and the denominator.
- Defining the numerator and denominator in his/her own words and providing examples.
- Locating unit fractions on a number line (0 to 1).

Lessons 2–5 Comparing Unit Fractions

Outcomes:

- Comparing unit fractions on a number line between 0 and 1.
- Modeling fractions with numerators greater than 1.
- Dividing a number line into a given number of equal parts.
- Locating proper fractions on a number line.
- Drawing models of fractions using shapes or sets.
- Comparing two fractions with the same denominator.
- Comparing two fractions with the same numerator.
- Explaining how to compare fractions.

Lessons 6–8 Adding and Subtracting Two Fractions With the Same Denominator

Outcomes:

- Adding two fractions with the same denominator.
- Explaining the importance of common denominators when adding fractions.
- Subtracting fractions with the same denominator.
- Explaining how to add and subtract fractions with common denominators.
- Applying his/her understanding of fractions to solve real-world problems.
- Writing a real-world story problem involving fractions.

Key Vocabulary

- Equal parts
- Fraction
- Fractional part
- Halves
- Thirds
- Fourths
- Fifths
- Sixths
- Eighths
- Number line
- Denominator
- Numerator
- Unit fraction
- Comparison
- Greater than
- Less than
- Proper fraction
- Hypothesis
- Add
- Sum
- Common
- Subtract
- Difference



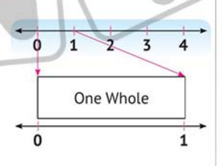
Representing Fractions on a Number Line
تمثيل الكسور على خط الأعداد

Steps to Represent Fractions on a Number Line
خطوات تمثيل الكسور على خط الأعداد

Ex. Represent fourths on the number line:

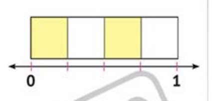
1 Draw a line.
Mark 0 on the left and mark 1 on the right; the space from 0 to 1 represents 1 whole.

ارسم خطًا. ثم ضع 0 على اليسار و 1 على اليمين، والمسافة من 0 إلى 1 تمثل 1 صحيحًا.



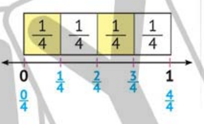
2 Divide the one whole into equal parts according to the denominator.

قسم الواحد الصحيح إلى أجزاء متساوية طبقًا للمقام.



3 You get a number line divided into 4 equal parts; each part is $\frac{1}{4}$.

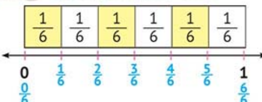
تحصل على خط الأعداد مقسمًا فيه الواحد الصحيح إلى 4 أجزاء متساوية كل جزء هو $\frac{1}{4}$.



Important Notes:

$0 = \frac{0}{4}$ $1 = \frac{4}{4}$

Ex. Represent sixths on the number line:



1 Use the number lines to represent the following:



2 Write the fraction shown on the number line:

a


b


c 0 1

d 0 1

3 Represent each of the following fractions on a number line:

a $\frac{1}{3}$


b $\frac{3}{4}$


c $\frac{5}{6}$


4 At a park, there is a straight 1-kilometer path. Every $\frac{1}{6}$ of the path, there is a drinking fountain. Use the number line to identify where each drinking fountain is located.



5 Ali needs to wrap some presents. He lays the ribbon flat and says, "If I make 3 equally spaced cuts, I will have just enough pieces. I can use 1 piece for each present".
Use the number line to show Ali's ribbon and the cuts he will make.



6 Complete the following table, as in the example:

	Fraction	Divided	Represented on the Number Line
Ex.	$\frac{3}{4}$		0, $\frac{3}{4}$, 1
a	$\frac{2}{6}$		0, 1
b	$\frac{1}{3}$		0, 1
c	$\frac{4}{7}$		0, 1



HOME ACTIVITIES

1 Use the number lines to represent the following:

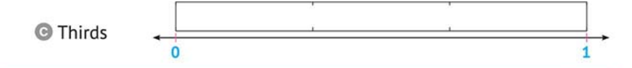
ⓐ Halves



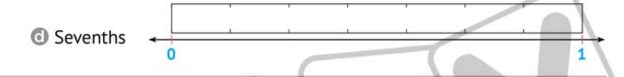
ⓑ Eighths



ⓒ Thirds



ⓓ Sevenths



ⓔ Fourths

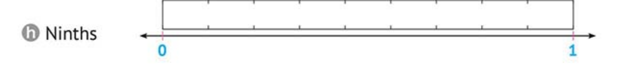


ⓕ Sixths

ⓖ Fifths

0 1

ⓗ Ninths



2 Write the fraction shown on the number line:

a) 0 ———— 1 $\frac{\dots}{\dots}$

b) 0 ———— 1 $\frac{\dots}{\dots}$

c) 0 ———— 1 $\frac{\dots}{\dots}$

d) 0 ———— 1 $\frac{\dots}{\dots}$

e) 0 ———— 1 $\frac{\dots}{\dots}$

f) 0 ———— 1 $\frac{\dots}{\dots}$

g) 0 ———— 1 $\frac{\dots}{\dots}$

h) 0 ———— 1 $\frac{\dots}{\dots}$

3 Use the number lines to represent the following fractions:

a) $\frac{1}{3}$ 0 ———— 1

b) $\frac{1}{2}$ 0 ———— 1

c) $\frac{3}{4}$ 0 ———— 1

d) $\frac{1}{7}$ 0 ———— 1

e) $\frac{5}{6}$ 0 ———— 1

f) $\frac{2}{5}$ 0 ———— 1

4 **Use the number line to represent each of the following:**

ⓐ Mariam is planting flowers in her 1-meter-long rectangular plant box. She divides the plant box into sections, $\frac{1}{8}$ of a meter in length. Then she plants 1 seed in each section.



ⓑ Ziad wants to cut a 1-meter piece of rope into equal pieces for his four friends.



ⓒ Ramy was walking with his sister and he stopped every $\frac{1}{8}$ of a mile to let his sister rest.

Use the number line to show the spots along the way where they stopped.



ⓓ Omar has a meter of wood. He needs $\frac{1}{3}$ of the meter for a bird house.



5 Complete the following table:

	Fraction	Divided	Represented on the Number Line
a	$\frac{3}{4}$		0, $\frac{3}{4}$, 1
b	$\frac{1}{2}$		0, 1
c	$\frac{1}{3}$		0, 1
d	$\frac{5}{8}$		0, 1
e	$\frac{2}{6}$		0, 1
f	$\frac{2}{4}$		0, 1
g	$\frac{4}{7}$		0, 1
h	$\frac{1}{5}$		0, 1

Worksheet 

First: Choose the correct answer:

a) The fraction represented on the number line is ....



($\frac{2}{3}$ or $\frac{2}{4}$ or $\frac{2}{5}$)

b) $\frac{1}{4}$ ☐ $\frac{1}{6}$ (< or = or >)

c) 2 × (4 + 5) = ... (9 + 9 or (2 × 4) × 5 or 2 × 20)

d) 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 = ... (2 × 2 or 4 × 4 or 2 + 8)

e) 8 × 40 = ... (32 × 10 or 12 × 10 or 40 + 8)

Second: Complete the following:

a) There are .... fifths in one whole.

b) (6 × 5) + (6 × 5) = 6 × (.......... + ...) = 6 × .... = ...

c) 47,047 = 47 + ...

d) 5 × 3 = ... + ... + ...

e) 1 = $\frac{......}{6}$

Third: Answer the following:

a) **If you divide 15 students into 3 groups evenly:**

1. How many students are in each group? ....
2. What is the fraction of the number of students in each group?

   ....
3. Represent this on the number line. 0 ———————— 1

b) **Draw the hands of the analog clock according to the time shown.**

02:46



Lessons 2–5 Comparing Unit Fractions

مقارنة كسور الوحدة

(1) Comparing Unit Fractions Using the Number Line

مقارنة كسور الوحدة باستخدام خط الأعداد

0 — $\frac{1}{2}$ — 1

0 — $\frac{1}{3}$ — 1

0 — $\frac{1}{4}$ — 1

0 — $\frac{1}{5}$ — 1

0 — $\frac{1}{6}$ — 1

0 — $\frac{1}{7}$ — 1

0 — $\frac{1}{8}$ — 1

0 — $\frac{1}{9}$ — 1

$\frac{1}{2} > \frac{1}{3} > \frac{1}{4} > \frac{1}{5} > \frac{1}{6} > \frac{1}{7} > \frac{1}{8} > \frac{1}{9}$

1 Use the number lines to compare the fractions:

a) $\frac{1}{4}$ ☐ $\frac{1}{7}$

0 — $\frac{1}{4}$ — 1

0 — $\frac{1}{7}$ — 1

b) $\frac{1}{8}$ ☐ $\frac{1}{3}$

0 — $\frac{1}{8}$ — 1

0 — $\frac{1}{3}$ — 1

c) $\frac{1}{5}$ ☐ $\frac{1}{6}$

0 — $\frac{1}{5}$ — 1

0 — $\frac{1}{6}$ — 1

(2) Comparing Fractions Using

مقارنة الكسور باستخدام خطوط الأعداد والنماذج

Number Lines | **Models**

Ex. Compare: $\frac{2}{5}$ ☐ $\frac{4}{5}$

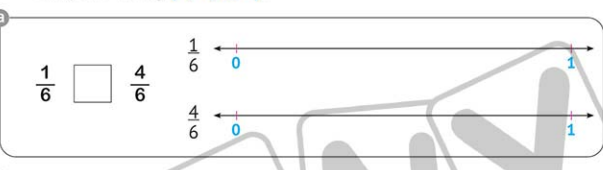
$\frac{2}{5}$ 0 — 1

$\frac{4}{5}$ 0 — 1

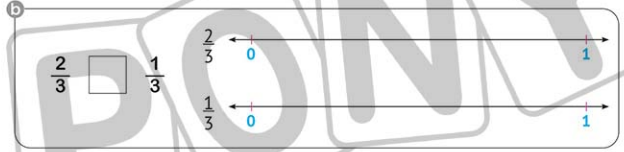
So, $\frac{2}{5} < \frac{4}{5}$

2 Represent the following fractions on the number lines, and then compare using (<, =, or >):

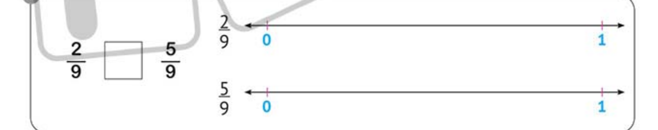
a $\frac{1}{6}$ ☐ $\frac{4}{6}$



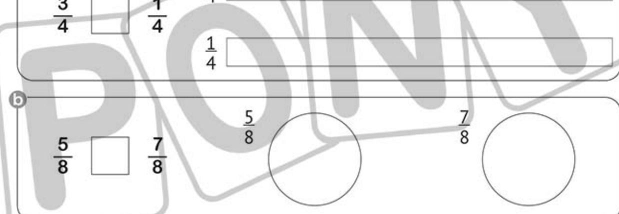
b $\frac{2}{3}$ ☐ $\frac{1}{3}$

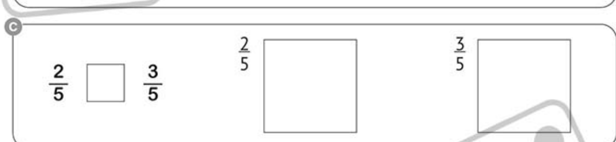


c $\frac{2}{9}$ ☐ $\frac{5}{9}$



3 Use the following models to represent each fraction, and then compare using (<, =, or >):



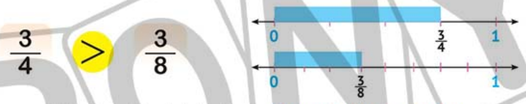


c $\frac{2}{5}$ □ $\frac{3}{5}$

$\frac{2}{5}$ □ $\frac{3}{5}$

(3) Comparing Two Fractions With the Same Numerator

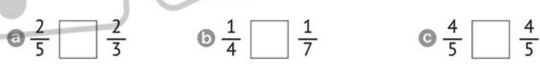
مقارنة كسرين لهما نفس البسط



The fraction with the lesser denominator is greater.

الكسر الذي مقامه أصغر هو الكسر الأكبر.

4 Compare using (<, =, or >):



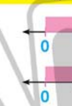
a $\frac{2}{5}$ □ $\frac{2}{3}$ b $\frac{1}{4}$ □ $\frac{1}{7}$ c $\frac{4}{5}$ □ $\frac{4}{5}$

d $\frac{3}{7}$ □ $\frac{3}{9}$ e $\frac{7}{8}$ □ $\frac{7}{7}$ f $\frac{5}{9}$ □ $\frac{5}{6}$

(4) Comparing Two Fractions With the Same Denominator

مقارنة كسرين لهما نفس المقام

$\frac{3}{6}$  $\frac{5}{6}$




The fraction with the lesser numerator is smaller.

الكسر الذي بسطه أصغر هو الكسر الأصغر.

5 **Compare using (<, =, or >):**



a) $\frac{3}{7}$ ☐ $\frac{2}{7}$ b) $\frac{4}{5}$ ☐ $\frac{3}{5}$ c) $\frac{6}{9}$ ☐ $\frac{4}{9}$

d) $\frac{1}{3}$ ☐ $\frac{2}{3}$ e) $\frac{7}{8}$ ☐ $\frac{7}{8}$ f) $\frac{6}{6}$ ☐ $\frac{5}{6}$

6 **Circle the smaller fraction:**

a) $\frac{2}{6}$ $\frac{2}{9}$ b) $\frac{3}{7}$ $\frac{3}{5}$  c) $\frac{5}{8}$ $\frac{8}{8}$

d) $\frac{6}{8}$ $\frac{4}{8}$ e) $\frac{6}{9}$ $\frac{6}{7}$ f) $\frac{2}{5}$ $\frac{2}{2}$

7 **Circle the greater fraction:**

a) $\frac{5}{6}$ $\frac{3}{6}$ b) $\frac{4}{8}$ $\frac{4}{6}$ c) $\frac{2}{4}$ $\frac{4}{4}$

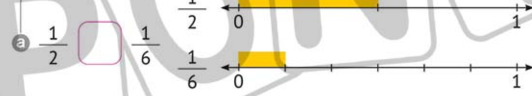
d) $\frac{1}{5}$ $\frac{1}{4}$ e) $\frac{7}{10}$ $\frac{9}{10}$ f) $\frac{5}{5}$ $\frac{5}{6}$



HOME ACTIVITIES

1 Represent each of the following fractions on the number lines, then compare using (<, =, or >):





ⓐ $\frac{1}{2}$ ☐ $\frac{1}{6}$

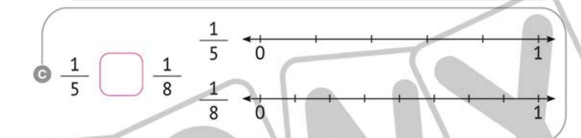
$\frac{1}{2}$: 0 ——— 1

$\frac{1}{6}$: 0 ——— 1

ⓑ $\frac{1}{4}$ ☐ $\frac{1}{9}$

$\frac{1}{4}$: 0 ——— 1

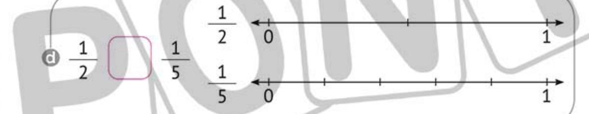
$\frac{1}{9}$: 0 ——— 1



ⓒ $\frac{1}{5}$ ☐ $\frac{1}{8}$

$\frac{1}{5}$: 0 ——— 1

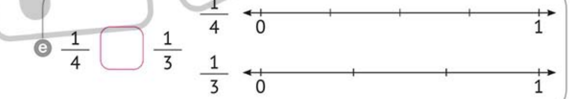
$\frac{1}{8}$: 0 ——— 1



ⓓ $\frac{1}{2}$ ☐ $\frac{1}{5}$

$\frac{1}{2}$: 0 ——— 1

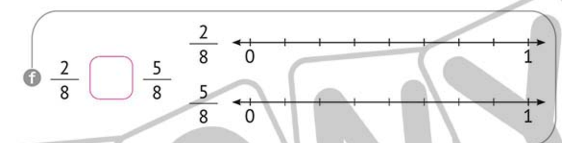
$\frac{1}{5}$: 0 ——— 1



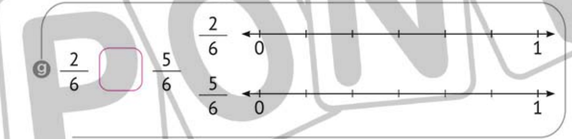
ⓔ $\frac{1}{4}$ ☐ $\frac{1}{3}$

$\frac{1}{4}$: 0 ——— 1

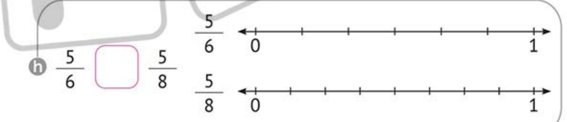
$\frac{1}{3}$: 0 ——— 1



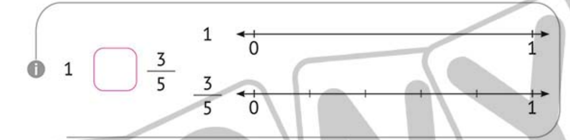
f $\frac{2}{8}$ ☐ $\frac{5}{8}$



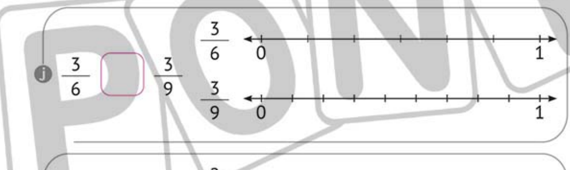
g $\frac{2}{6}$ ☐ $\frac{5}{6}$



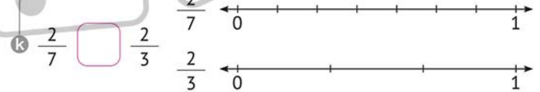
h $\frac{5}{6}$ ☐ $\frac{5}{8}$



i 1 ☐ $\frac{3}{5}$



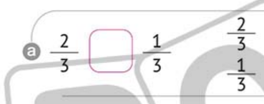
j $\frac{3}{6}$ ☐ $\frac{3}{9}$



k $\frac{2}{7}$ ☐ $\frac{2}{3}$

2 Use the pictures or models to represent the fractions, then compare using (<, =, or >):

ⓐ



$\frac{2}{3}$ ☐ $\frac{1}{3}$

$\frac{2}{3}$

$\frac{1}{3}$

ⓑ



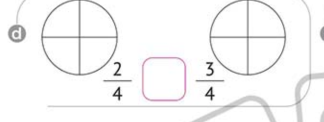
$\frac{5}{8}$ ☐ $\frac{7}{8}$

ⓒ



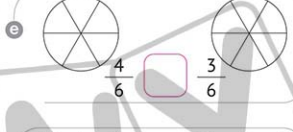
$\frac{3}{5}$ ☐ $\frac{2}{5}$

ⓓ



$\frac{2}{4}$ ☐ $\frac{3}{4}$

ⓔ



$\frac{4}{6}$ ☐ $\frac{3}{6}$

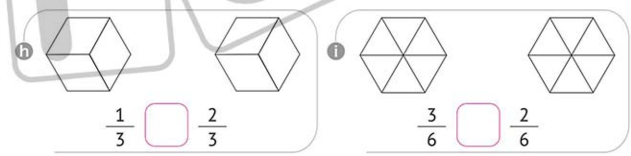
ⓕ ⓖ



$\frac{2}{5}$ ☐ $\frac{1}{5}$

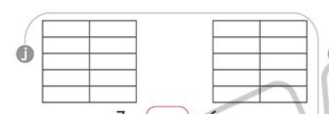
$\frac{4}{8}$ ☐ $\frac{4}{8}$

ⓗ ⓘ



$\frac{1}{3}$ ☐ $\frac{2}{3}$

$\frac{3}{6}$ ☐ $\frac{2}{6}$

j 

$\frac{7}{10}$ ☐ $\frac{6}{10}$

k $\frac{5}{9}$ ☐ $\frac{3}{9}$

3 Compare using (<, =, or >):

a $\frac{1}{5}$ ☐ $\frac{1}{3}$	b $\frac{4}{6}$ ☐ $\frac{3}{6}$	c $\frac{3}{3}$ ☐ $\frac{3}{6}$
d $\frac{1}{6}$ ☐ $\frac{1}{4}$	e $\frac{5}{7}$ ☐ $\frac{1}{7}$	f $\frac{4}{9}$ ☐ $\frac{4}{7}$
g $\frac{1}{7}$ ☐ $\frac{1}{9}$	h $\frac{4}{9}$ ☐ $\frac{5}{9}$	i $\frac{2}{9}$ ☐ $\frac{2}{5}$
j $\frac{1}{8}$ ☐ $\frac{1}{7}$	k $\frac{2}{5}$ ☐ $\frac{5}{5}$	l $\frac{8}{8}$ ☐ $\frac{5}{8}$

4 Circle the smaller fraction:

a $\frac{1}{4}$ $\frac{1}{2}$	b $\frac{1}{3}$ 1	c $\frac{1}{5}$ $\frac{1}{8}$
d $\frac{5}{6}$ $\frac{6}{6}$	e $\frac{4}{7}$ $\frac{3}{7}$	f $\frac{2}{4}$ $\frac{1}{4}$
g $\frac{2}{5}$ $\frac{2}{8}$	h $\frac{3}{4}$ $\frac{3}{6}$	i $\frac{6}{9}$ $\frac{7}{9}$





5 Circle the greater fraction:

a $\frac{1}{9}$ $\frac{1}{4}$	b $\frac{1}{8}$ $\frac{1}{7}$	c $\frac{1}{3}$ $\frac{1}{2}$
d $\frac{2}{8}$ $\frac{5}{8}$	e $\frac{4}{4}$ $\frac{3}{4}$	f $\frac{3}{5}$ $\frac{2}{5}$
g $\frac{3}{7}$ $\frac{3}{8}$	h $\frac{4}{8}$ $\frac{4}{6}$	i $\frac{2}{3}$ $\frac{2}{5}$

Worksheet 2

First: **Choose the correct answer:**

a) $\frac{2}{6}$ ☐ $\frac{5}{6}$ (< or = or >)

b) 7,456 ☐ 7,502 (< or = or >)

c) $5 \times (4 \times 5) =$ .... (4×25 or 5×9 or $4 \times (5 + 5)$)

d) $6 + 6 + 6 =$ .... (3×9 or 6×3 or $6 + 3$)

e) $5 \times 12 =$ .... ($5 \times (10 + 2)$ or $5 \times (10 \times 2)$ or $5 \times (6 \times 6)$)

Second: **Complete the following:**

a) The smallest 5-different-digit number is ....

b) $7 \times 80 =$ ...... $\times 10$

c) .... $\div 6 = 7$

d) $7 \times 6 + 7 \times 4 = 7 \times ($ .... + ... $) = 7 \times$ .... = ...

e) The fraction represented on the following number line is ....



Third: **Answer the following:**

a) **Arrange the following fractions and numbers in an ascending order:**

$\frac{7}{8}$, $\frac{6}{8}$, $\frac{1}{8}$, $\frac{5}{8}$

.... , ... , ... , ...

75,214 , 75,421 , 75,124 , 75,412

.... , ... , ... , ...

b) **Farha has 8 bags of marbles. Each bag has 6 marbles inside.**

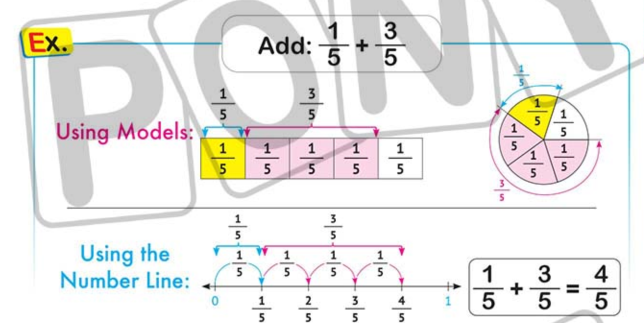
How many marbles does Farha have altogether?

....

Lessons 6–8 Adding and Subtracting Two Fractions With the Same Denominator

جمع وطرح كسرين لهم نفس المقام

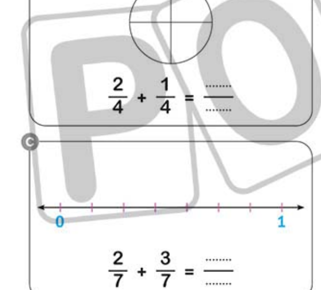
Ex. Add: $\frac{1}{5} + \frac{3}{5}$



$\frac{1}{5} + \frac{3}{5} = \frac{4}{5}$

1 Solve the addition problems below.

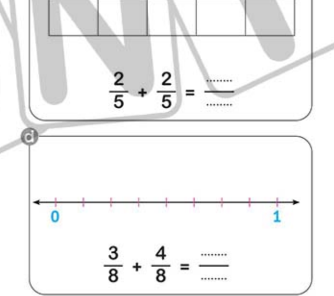
Use the models or number lines to show your steps:

a. 

$\frac{2}{4} + \frac{1}{4} = \frac{\cdots}{\cdots}$

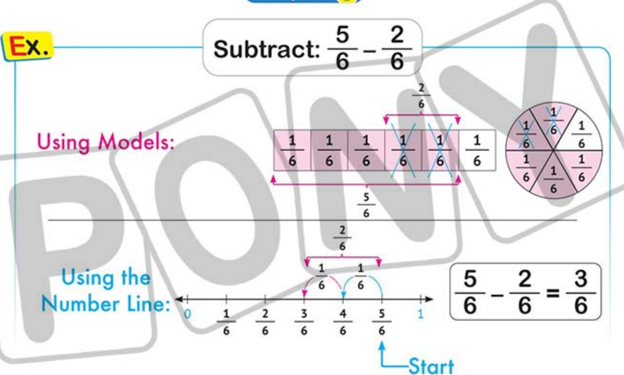
b. $\frac{2}{5} + \frac{2}{5} = \frac{\cdots}{\cdots}$

c. $\frac{2}{7} + \frac{3}{7} = \frac{\cdots}{\cdots}$

d. 

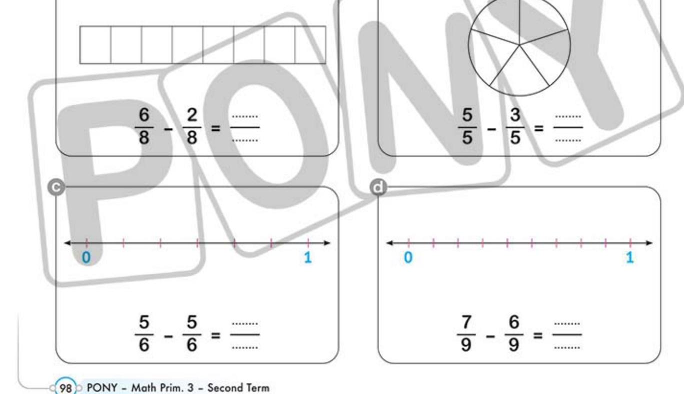
$\frac{3}{8} + \frac{4}{8} = \frac{\cdots}{\cdots}$

Ex. Subtract: $\frac{5}{6} - \frac{2}{6}$



2 Solve the subtraction problems below.

Use the models or number lines to show your steps:



3 **Find the result:**

ⓐ $\frac{1}{4} + \frac{1}{4} = \frac{\dots}{\dots}$

ⓑ $\frac{2}{6} + \frac{3}{6} = \frac{\dots}{\dots}$

ⓒ $\frac{3}{7} + \frac{4}{7} = \frac{\dots}{\dots} = \dots$

ⓓ $\frac{2}{9} + \frac{4}{9} = \frac{\dots}{\dots}$

ⓔ $\frac{5}{6} - \frac{1}{6} = \frac{\dots}{\dots}$

ⓕ $1 - \frac{1}{5} = \frac{\dots}{\dots}$

ⓖ $\frac{5}{7} - \frac{2}{7} = \frac{\dots}{\dots}$

ⓗ $\frac{5}{8} - \frac{5}{8} = \frac{\dots}{\dots} = \dots$

4 **Complete the following:**

ⓐ $\frac{3}{6} + \frac{\dots}{\dots} = \frac{5}{6}$

ⓑ $\frac{2}{8} + \frac{\dots}{\dots} = \frac{6}{8}$

ⓒ $\frac{\dots}{\dots} + \frac{3}{5} = \frac{4}{5}$

ⓓ $\frac{\dots}{\dots} + \frac{2}{9} = \frac{8}{9}$

ⓔ $\frac{\dots}{\dots} - \frac{1}{3} = \frac{1}{3}$

ⓕ $\frac{\dots}{\dots} - \frac{1}{5} = \frac{2}{5}$

ⓖ $\frac{7}{8} - \frac{\dots}{\dots} = \frac{2}{8}$

ⓗ $1 - \frac{\dots}{\dots} = \frac{2}{7}$

5 **Mohamed ate $\frac{1}{6}$ of his sandwich at snack time and $\frac{3}{6}$ of his sandwich at lunch.**

How much of his sandwich did he eat in all?

....

6 **Nehal had $\frac{9}{10}$ pound. She bought a pencil for $\frac{7}{10}$ pound.**

Find the remaining money with her.

....



HOME ACTIVITIES

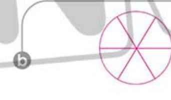
1 Solve the addition problems below. Use the models or number lines to show your steps:

a



$\frac{1}{5} + \frac{3}{5} = \frac{\cdots}{\cdots}$

b



$\frac{2}{6} + \frac{2}{6} = \frac{\cdots}{\cdots}$

c

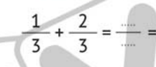


$\frac{2}{8} + \frac{5}{8} = \frac{\cdots}{\cdots}$

d



$\frac{1}{3} + \frac{2}{3} = \frac{\cdots}{\cdots} = \cdots\cdots$



e



$\frac{1}{3} + \frac{1}{3} = \frac{\cdots}{\cdots}$

f

0 1

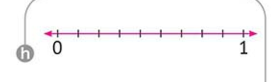
$\frac{1}{4} + \frac{2}{4} = \frac{\cdots}{\cdots}$

g



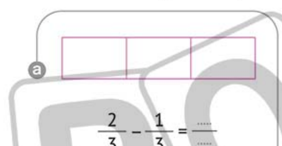
$\frac{1}{5} + \frac{3}{5} = \frac{\cdots}{\cdots}$

h

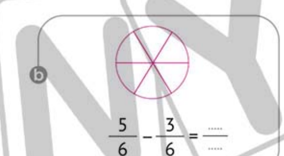


$\frac{2}{9} + \frac{5}{9} = \frac{\cdots}{\cdots}$

2 **Solve the subtraction problems below. Use the models or number lines to show your steps:**

a 

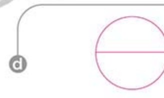
$\frac{2}{3} - \frac{1}{3} = \frac{\cdots}{\cdots}$

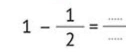
b 

$\frac{5}{6} - \frac{3}{6} = \frac{\cdots}{\cdots}$

c 

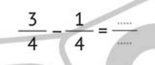
$\frac{6}{9} - \frac{2}{9} = \frac{\cdots}{\cdots}$

d 

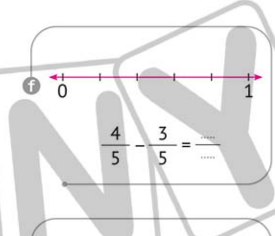


$1 - \frac{1}{2} = \frac{\cdots}{\cdots}$

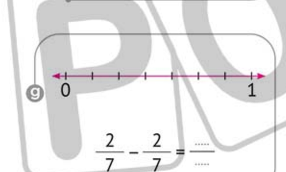
e 



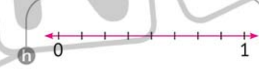
$\frac{3}{4} - \frac{1}{4} = \frac{\cdots}{\cdots}$

f 

$\frac{4}{5} - \frac{3}{5} = \frac{\cdots}{\cdots}$

g 

$\frac{2}{7} - \frac{2}{7} = \frac{\cdots}{\cdots}$

h 

$\frac{7}{8} - \frac{3}{8} = \frac{\cdots}{\cdots}$

3 Find the result:

a $\frac{1}{2} + \frac{1}{2} = \frac{\dots}{\dots} = \dots\dots$

b $\frac{3}{8} + \frac{3}{8} = \frac{\dots}{\dots}$

c $\frac{1}{3} + \frac{1}{3} = \frac{\dots}{\dots}$

d $\frac{6}{9} + \frac{3}{9} = \frac{\dots}{\dots} = \dots\dots$

e $\frac{1}{4} + \frac{2}{4} = \frac{\dots}{\dots}$

f $\frac{3}{5} + \frac{1}{5} = \frac{\dots}{\dots}$

g $\frac{2}{5} - \frac{2}{5} = \frac{\dots}{\dots} = \dots\dots$

h $\frac{4}{7} - \frac{2}{7} = \frac{\dots}{\dots}$

i $\frac{3}{6} - \frac{2}{6} = \frac{\dots}{\dots}$

j $\frac{4}{6} - \frac{1}{6} = \frac{\dots}{\dots}$

k $\frac{5}{7} - \frac{1}{7} = \frac{\dots}{\dots}$

l $\frac{7}{9} - \frac{1}{9} = \frac{\dots}{\dots}$

4 Complete the following:

a $\frac{\dots}{\dots} + \frac{2}{9} = \frac{5}{9}$

b $\frac{\dots}{\dots} + \frac{3}{8} = \frac{6}{8}$

c $\frac{\dots}{\dots} + \frac{1}{7} = \frac{5}{7}$

d $\frac{1}{9} + \frac{\dots}{\dots} = \frac{7}{9}$

e $\frac{2}{5} + \frac{\dots}{\dots} = \frac{3}{5}$

f $\frac{1}{8} + \frac{\dots}{\dots} = \frac{7}{8}$

g $\frac{6}{8} - \frac{\dots}{\dots} = \frac{2}{8}$

h $\frac{5}{6} - \frac{\dots}{\dots} = \frac{3}{6}$

i $\frac{3}{4} - \frac{\dots}{\dots} = \frac{1}{4}$

j $\frac{\dots}{\dots} - \frac{2}{7} = \frac{2}{7}$

k $\frac{\dots}{\dots} - \frac{1}{3} = \frac{2}{3}$

l $\frac{\dots}{\dots} - \frac{3}{7} = \frac{4}{7}$

5 Omar brought $\frac{2}{4}$ of a candy bar to the playground.

He gave $\frac{1}{4}$ of it to his friend. How much of the candy bar does he have left?

....

....

6 Maha and Nagi baked cakes that were the same size.

Maha gave $\frac{3}{4}$ of her cake to her class. Nagi gave $\frac{1}{2}$ of his cake to his class. Which class received more cake, Maha's class or Nagi's class?

....

....

7 The juice container at Farida's house was $\frac{5}{6}$ full.

Farida drank $\frac{5}{6}$ of the juice.

How much juice was left in the container?

....

....

8 Yesterday, Marwan ran $\frac{2}{8}$ kilometer, and then stopped to drink some water. After his water break, he ran another $\frac{2}{8}$ kilometer. What fraction of kilometers did Marwan run yesterday?

....

....

Worksheet 3

First: Choose the correct answer:

a) $\frac{\cdots}{\cdots} + \frac{3}{7} = \frac{4}{7}$ ($\frac{1}{7}$ or 1 or $\frac{6}{7}$)

b) 45,045 ☐ 40,545 (< or = or >)

c) 5 + 5 + 5 + 5 + 5 + 5 = ... (3 × 10 or 5 × 5 or 5 + 6)

d) 5 × (10 + 2) = ... (5 × 20 or 50 × 10 or 6 × 10)

e) $\frac{2}{8}$ ☐ $\frac{2}{6}$ (< or = or >)

Second: Complete the following:

a) $\frac{1}{4} + \frac{3}{4} = \frac{\cdots}{\cdots}$

b) $\frac{6}{9} - \frac{2}{9} = \frac{\cdots}{\cdots}$

c) There are .... ninths in one whole.

d) 48 × 10 = 6 × ...... × 10

e) $\frac{\cdots}{\cdots} - \frac{2}{5} = \frac{3}{5}$

Third: Answer the following:

a) Solve the subtraction problem below. Use the model to represent the fraction.

• $\frac{5}{7} - \frac{3}{7} = \frac{\cdots}{\cdots}$



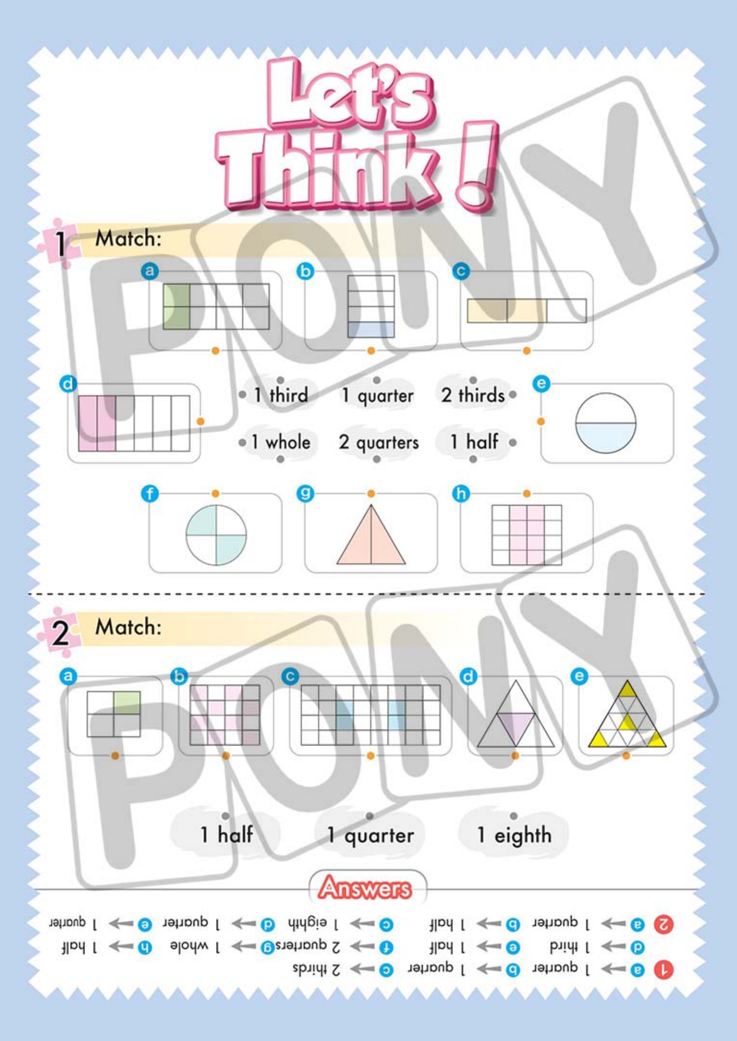
b) Arrange the following fractions in a **descending** order:

$\frac{4}{8}$, $\frac{4}{9}$, $\frac{4}{5}$, $\frac{4}{7}$

The order: ...., ..., ..., ...

c) Ahmed drank $\frac{1}{4}$ of a **1-liter** carton of milk.
What is the capacity of the **remaining** part of the milk?

....



Let's Think!
1 Match:
a
b
c
d
1 third
1 quarter
2 thirds
e
1 whole
2 quarters
1 half
f
g
h
2 Match:
a
b
c
d
e
1 half
1 quarter
1 eighth
Answers
1 a → 1 quarter b → 1 quarter c → 2 thirds
d → 1 third e → 1 half f → 2 quarters g → 1 whole h → 1 half
2 a → 1 quarter b → 1 half c → 1 eighth d → 1 quarter e → 1 quarter

Chapter 10



Chapter Lessons

Lesson 1 Equivalent Fractions to a Half

Outcomes:

- Using fraction models to find fractions equivalent to $\frac{1}{2}$.
- Using models and number lines to find equivalent fractions.
- Explaining which model he/she prefers to use to find equivalent fractions.
- Using concrete models to identify equivalent fractions other than $\frac{1}{2}$.

Lessons 2–5 Equivalent Fractions

Outcomes:

- Matching equivalent fractions.
- Explaining why two fractions are or are not equivalent.
- Defining the term equivalent.
- Finding equivalent fractions.
- Describing patterns and relationships between numerators and denominators in equivalent fractions.
- Using a number line to generate and show equivalent fractions.
- Solving story problems involving fraction concepts.
- Applying his/her understanding of equivalent fractions to solve story problems.
- Describing real-life applications of fractions and equivalent fractions.

Lessons 6–8 Multiplication and Division

Outcomes:

- Solving division story problems.
- Discussing the relationship between fractions and division.
- Analyzing errors to solve a division problem.
- Writing a story problem to fit a given context.
- Describing real-life applications of division.
- Finding the missing factor in a fact family.
- Writing multiplication and division equations to represent fact families.
- Explaining the relationship between multiplication and division.

Key Vocabulary

- Half
- Equivalent fractions
- Fraction
- Numerator
- Multiplication
- Estimation
- Product
- Division
- Number line
- Denominator
- Pattern
- Factor
- Quotient

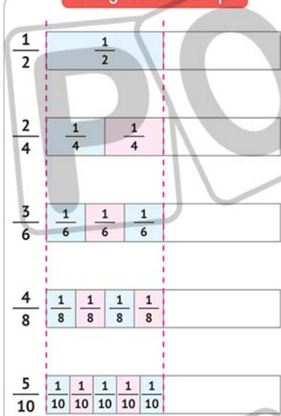




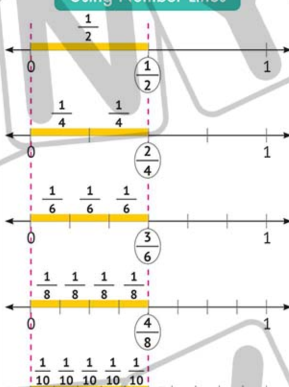
Lesson 1 Equivalent Fractions to a Half

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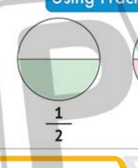
Using Fraction Strips

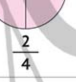


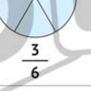
Using Number Lines

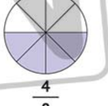


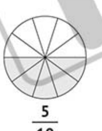
Using Fraction Models











$\frac{1}{2}$ $\frac{2}{4}$ $\frac{3}{6}$ $\frac{4}{8}$ $\frac{5}{10}$

From the above, we note that

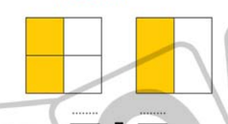
$\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8} = \frac{5}{10} =$ ....

Any fraction whose numerator is half the denominator is equivalent to a half.

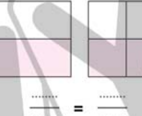
أي كسر بسطه نصف مقامه يكافئ نصف.



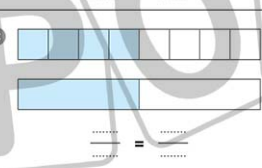
1 Write the fraction represented by each model:

a


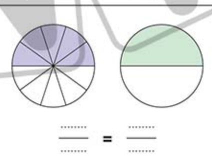
$\frac{\dots}{\dots} = \frac{\dots}{\dots}$

b


$\frac{\dots}{\dots} = \frac{\dots}{\dots}$

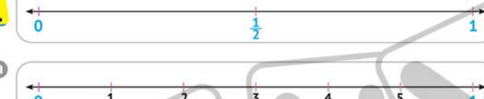
c


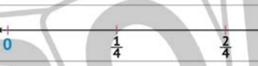
$\frac{\dots}{\dots} = \frac{\dots}{\dots}$

d


$\frac{\dots}{\dots} = \frac{\dots}{\dots}$

2 By using the number lines, find the equivalent fractions to $\frac{1}{2}$:

Ex.


a


$\frac{1}{2} = \frac{\dots}{6}$



b 0, $\frac{1}{4}$, $\frac{2}{4}$, $\frac{3}{4}$, 1

$\frac{1}{2} = \frac{\dots}{\dots}$

c 0, $\frac{1}{12}$, $\frac{2}{12}$, $\frac{3}{12}$, $\frac{4}{12}$, $\frac{5}{12}$, $\frac{6}{12}$, $\frac{7}{12}$, $\frac{8}{12}$, $\frac{9}{12}$, $\frac{10}{12}$, $\frac{11}{12}$, 1

$\frac{1}{2} = \frac{\dots}{\dots}$

3 Complete:

a $\frac{1}{2} = \frac{3}{\dots}$

b $\frac{1}{2} = \frac{4}{\dots}$

c $\frac{1}{2} = \frac{\dots}{14}$

d $\frac{1}{2} = \frac{8}{\dots}$

e $\frac{1}{2} = \frac{\dots}{12}$

f $\frac{1}{2} = \frac{\dots}{20}$



HOME ACTIVITIES

1 Find the equivalent fraction to $\frac{1}{2}$, using the models, in each of the following:

a) ____ = ____

b) ____ = ____

c) ____ = ____

d) ____ = ____

e) ____ = ____

f) ____ = ____

g) ____ = ____

h) ____ = ____

i) ____ = ____

j) ____ = ____

k) ____ = ____

l) ____ = ____

m) ____ = ____

n) ____ = ____

o) ____ = ____

2 Find the equivalent fraction to $\frac{1}{2}$ in each of the following:

Ex. (number line from 0 to 1, shaded to the middle) $\frac{1}{2}$

a) (number line 0 to 1) $\frac{1}{2} = \frac{\dots}{\dots}$

b) (number line 0 to 1) $\frac{1}{2} = \frac{\dots}{\dots}$

c) (number line 0 to 1) $\frac{1}{2} = \frac{\dots}{\dots}$

d) (number line 0 to 1) $\frac{1}{2} = \frac{\dots}{\dots}$

e) (number line 0 to 1) $\frac{1}{2} = \frac{\dots}{\dots}$

f) (number line 0 to 1) $\frac{1}{2} = \frac{\dots}{\dots}$

3 Complete the following:

a) $\frac{1}{2} = \frac{2}{\dots}$

b) $\frac{1}{2} = \frac{\dots}{12}$

c) $\frac{1}{2} = \frac{3}{\dots}$

d) $\frac{1}{2} = \frac{8}{\dots}$

e) $\frac{1}{2} = \frac{4}{\dots}$

f) $\frac{1}{2} = \frac{\dots}{14}$

g) $\frac{1}{2} = \frac{5}{\dots}$

h) $\frac{1}{2} = \frac{\dots}{18}$

i) $\frac{1}{\dots} = \frac{12}{24}$

j) $\frac{\dots}{2} = \frac{10}{20}$

k) $\frac{1}{\dots} = \frac{11}{22}$

l) $\frac{1}{\dots} = \frac{15}{30}$

m) $\frac{1}{2} = \frac{\dots}{8} = \frac{8}{\dots}$

n) $\frac{\dots}{2} = \frac{\dots}{14} = \frac{14}{28}$

Worksheet 

First: **Choose the correct answer:**

a) The **place value** of the digit 9 in 78,923 is the ....
(Tens or Hundreds or Thousands)

b) $6 \times 3 =$ .... ($2 \times 3 \times 3$ or $3 \times 3 \times 3$ or 9×3)

c) $7 \times 12 =$ .... ($7 \times 10 \times 2$ or $7 \times 6 \times 6$ or $7 \times 3 \times 4$)

d) .... $- \frac{3}{6} = \frac{2}{6}$ ($\frac{5}{12}$ or $\frac{1}{6}$ or $\frac{5}{6}$)

e) Three-fifths = ... ($\frac{3}{8}$ or $\frac{3}{5}$ or $\frac{5}{3}$)

Second: **Complete the following:**

a) $\frac{1}{4} = \frac{\dots}{8}$

b) $\frac{\dots}{36} = \frac{9}{\dots} = \frac{1}{2}$

c) 12 thousands, 45 hundreds = ...

d) The number of sevenths in one whole is .... sevenths.

e) .... $\div 6 = 9$

Third: **Answer the following:**

a) **Arrange the following numbers in an ascending order:**

$\frac{4}{5}$, $\frac{4}{9}$, 1 , $\frac{4}{7}$

.... , ... , ... , ...

b) **Complete using the models:**

$\frac{\dots}{\dots}$

$\frac{\dots}{\dots}$

$\frac{\dots}{\dots}$

$\frac{\dots}{\dots} = \frac{\dots}{\dots} = \frac{\dots}{\dots}$

c) **Write the time on the digital clock:**





Lessons 2–5 Equivalent Fractions

الكسور المتكافئة

Equivalent Fractions

They are two or more fractions of the same value. هي كسور لها نفس القيمة.

Equivalent fractions are shown using fraction strips (models) and number lines.

تمثيل الكسور المتكافئة باستخدام النماذج وخط الأعداد.

Using Fraction Strips

They cover the same unit area.

نفس المساحة.

Using Number Lines

They're on the same point on the number line.

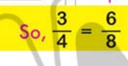
على نفس النقطة على خط الأعداد.

Ex.

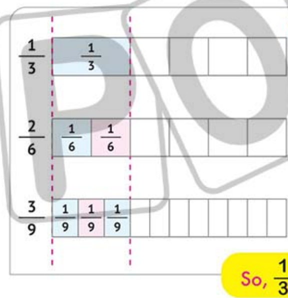
$\frac{3}{4}$: $\frac{1}{4}$ | $\frac{1}{4}$ | $\frac{1}{4}$

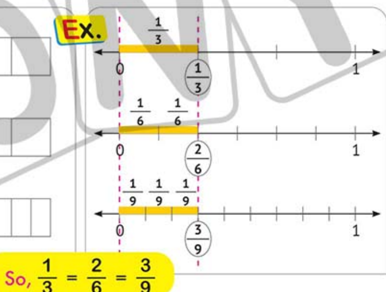
$\frac{6}{8}$: $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$





Ex.

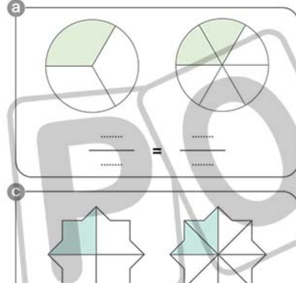




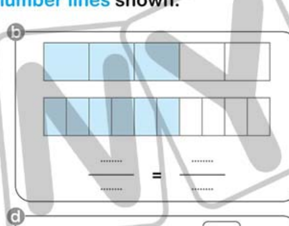
So, $\frac{1}{3} = \frac{2}{6} = \frac{3}{9}$

1 Complete using the models or number lines shown:

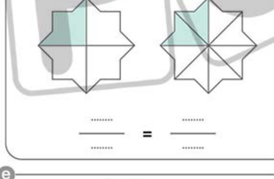
a



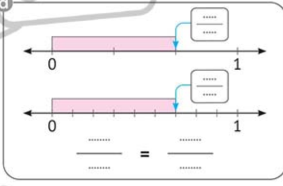
b



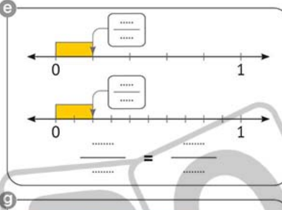
c



d



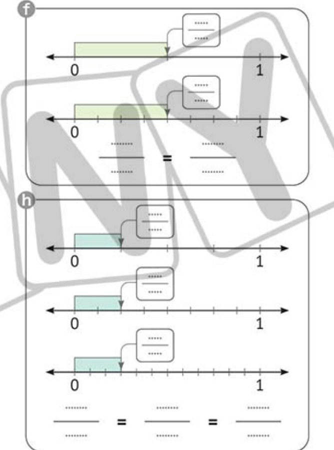
e



f

g

h



Getting Equivalent Fractions Using Multiplication or Division
الحصول على الكسور المتكافئة باستخدام الضرب أو القسمة

We get equivalent fractions if we multiply or divide both the numerator and the denominator by the same number. (Except for zero)

نحصل على الكسور المتكافئة عندما نقوم بقسمة أو ضرب البسط والمقام بنفس العدد أو على نفس العدد ما عدا الصفر.

Ex. Complete:

a) $\frac{2}{3} = \frac{4}{\dots}$ → $\frac{2}{3} = \frac{4}{\dots}$ ($2 \times 2 = 4$) → $\frac{2}{3} = \frac{4}{6}$ ($2 \times 3 = 6$)

b) $\frac{\dots}{5} = \frac{6}{15}$ → $\frac{\dots}{5} = \frac{6}{15}$ ($5 \times 3 = 15$) → $\frac{2}{5} = \frac{6}{15}$ ($2 \times 3 = 6$)

c) $\frac{4}{8} = \frac{\dots}{2}$ → $\frac{4}{8} = \frac{\dots}{2}$ ($8 \div 4 = 2$) → $\frac{4}{8} = \frac{1}{2}$ ($4 \div 4 = 1$)

d) $\frac{35}{\dots} = \frac{7}{9}$ → $\frac{35}{\dots} = \frac{7}{9}$ ($35 \div 5 = 7$) → $\frac{35}{45} = \frac{7}{9}$ ($45 \div 5 = 9$)

2 Complete the following:

a) $\frac{1}{4} = \frac{3}{\dots}$	b) $\frac{3}{8} = \frac{\dots}{16}$	c) $\frac{3}{8} = \frac{\dots}{16}$
d) $\frac{2}{\dots} = \frac{4}{6}$	e) $\frac{\dots}{5} = \frac{15}{25}$	f) $\frac{3}{\dots} = \frac{21}{42}$
g) $\frac{8}{12} = \frac{\dots}{3}$	h) $\frac{12}{18} = \frac{2}{\dots}$	i) $\frac{16}{24} = \frac{2}{\dots}$
j) $\frac{\dots}{16} = \frac{1}{8}$	k) $\frac{30}{\dots} = \frac{6}{7}$	l) $\frac{\dots}{36} = \frac{3}{9}$

Ex. **Complete:**

$$\frac{2}{3} \xrightarrow{\times 2} \frac{4}{6} \xrightarrow{\times 3} \frac{12}{18} \qquad (\times 6)$$

$$\frac{2}{3} = \frac{4}{6} = \frac{12}{18}$$

$$\frac{2}{3} \xrightarrow{\times 4} \frac{8}{12} \qquad \frac{2}{3} \xrightarrow{\times 7} \frac{14}{21}$$

$$\frac{2}{3} = \frac{8}{12} = \frac{14}{21}$$

3 Complete the following:

a) $\frac{2}{3} = \frac{\dots}{6} = \frac{10}{\dots}$

b) $\frac{3}{4} = \frac{12}{\dots} = \frac{\dots}{20}$

c) $\frac{\dots}{2} = \frac{3}{6} = \frac{12}{\dots}$

d) $\frac{1}{5} = \frac{\dots}{20} = \frac{8}{\dots}$

e) $\frac{3}{4} = \frac{9}{\dots} = \frac{\dots}{16}$

f) $\frac{\dots}{8} = \frac{8}{16} = \frac{16}{\dots}$

Ex. **Complete:**

$$\frac{8}{16} \xrightarrow{\div 2} \frac{4}{8} \xrightarrow{\div 2} \frac{2}{4} \qquad (\div 4)$$

$$\frac{8}{16} = \frac{4}{8} = \frac{2}{4}$$

$$\frac{6}{12} \xrightarrow{\div 2} \frac{3}{6} \qquad \frac{6}{12} \xrightarrow{\div 3} \frac{2}{4}$$

$$\frac{6}{12} = \frac{3}{6} = \frac{2}{4}$$

4 Complete the following:

a) $\frac{18}{27} = \frac{\dots}{9} = \frac{2}{\dots}$

b) $\frac{15}{30} = \frac{3}{\dots} = \frac{\dots}{10}$

c) $\frac{24}{36} = \frac{6}{\dots} = \frac{\dots}{3}$

d) $\frac{24}{36} = \frac{\dots}{12} = \frac{6}{\dots}$

e) $\frac{\dots}{24} = \frac{4}{6} = \frac{2}{\dots}$

f) $\frac{30}{\dots} = \frac{6}{8} = \frac{\dots}{4}$

Equivalent Fractions Patterns

أنماط الكسور المتكافئة

Using Fraction Strips

$\frac{1}{2}$: $\frac{1}{2}$

$\frac{2}{4}$: $\frac{1}{4}$ $\frac{1}{4}$

$\frac{3}{6}$: $\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$

$\frac{4}{8}$: $\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{8}$

Using Number Lines

0 — $\frac{1}{2}$ — 1

$\frac{1}{4}$ $\frac{1}{4}$: 0 — $\frac{2}{4}$ — 1

$\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$: 0 — $\frac{3}{6}$ — 1

$\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{8}$ $\frac{1}{8}$: 0 — $\frac{4}{8}$ — 1

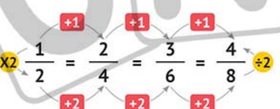
Important Note:

The numerator increases by 1.

البسط يزيد بمقدار 1.

The denominator is twice the numerator.

المقام ضعف البسط



The numerator is half the denominator.

البسط نصف المقام

The denominator increases by 2.

المقام يزيد بمقدار 2.

5 Complete the following fraction patterns and describe the pattern:

(a) $\frac{1}{2} = \frac{\dots}{4} = \frac{3}{\dots} = \frac{\dots}{8}$

Description of the pattern:
The numerator increases by ....
The denominator increases by ....

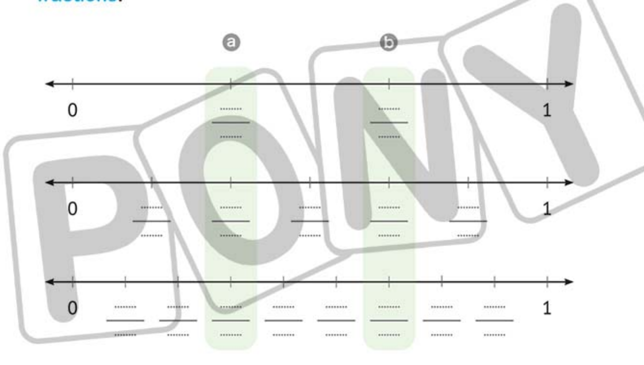
(b) $\frac{1}{3} = \frac{\dots}{6} = \frac{3}{\dots} = \frac{4}{\dots}$

Description of the pattern:
The numerator increases by ....
The denominator increases by ....

(c) $\frac{2}{5} = \frac{4}{\dots} = \frac{\dots}{15} = \frac{8}{\dots}$

Description of the pattern:
The numerator increases by ....
The denominator increases by ....

6 Complete the following number lines, then write the equivalent fractions:



(a) $\frac{\dots}{\dots} = \frac{\dots}{\dots} = \frac{\dots}{\dots}$

(b) $\frac{\dots}{\dots} = \frac{\dots}{\dots} = \frac{\dots}{\dots}$

7 **Doha folded a paper into two equal pieces.**

(a) What fraction is each part of the paper? $\frac{\dots}{\dots}$

(b) She colored $\frac{1}{2}$ of it red. Then she folded the paper again, and when she opened it up, there were four equal parts.

What fraction of the paper was colored red? $\frac{\dots}{\dots}$

(c) Draw what Doha's paper looked like after the second fold.



8 **Laila is making a quilt. The pattern calls for $\frac{2}{3}$ of a meter of fabric. She wants to use many different pieces that are each $\frac{1}{6}$-meter long. How many $\frac{1}{6}$-meter long pieces of fabric will she need?**

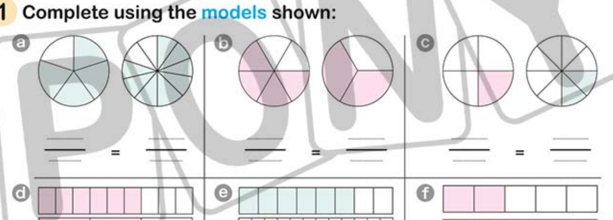
Show your thinking. You can use a fraction model.

$\frac{2}{3} = \frac{\dots}{6}$

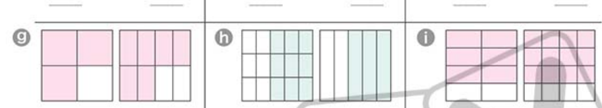


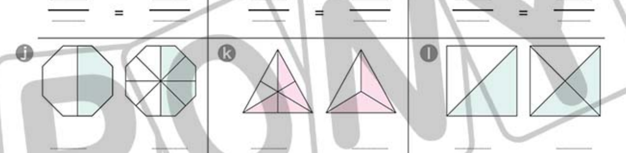
HOME ACTIVITIES

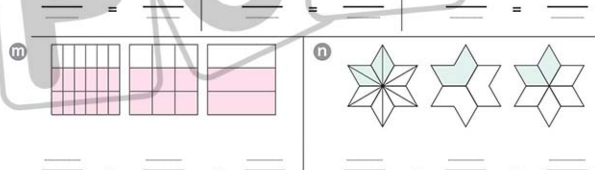
1 Complete using the models shown:



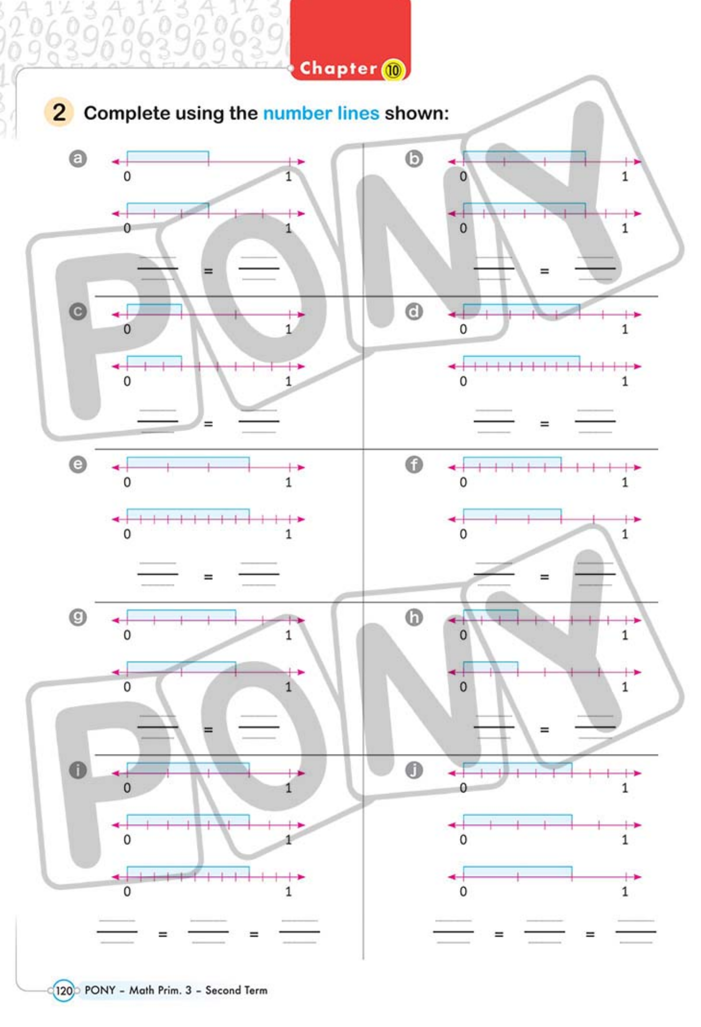








2 Complete using the number lines shown:



3 Use your fraction models to find:

Draw your work, shade and name each fraction.

ⓐ Two fractions that are equal to $\frac{1}{2}$.

$\frac{1}{2}$

$\frac{\dots}{\dots}$

$\frac{\dots}{\dots}$

$\frac{1}{2} = \frac{\dots}{\dots} = \frac{\dots}{\dots}$

ⓑ Two fractions that are equal to $\frac{2}{3}$.

$\frac{2}{3}$

$\frac{\dots}{\dots}$

$\frac{\dots}{\dots}$

$\frac{2}{3} = \frac{\dots}{\dots} = \frac{\dots}{\dots}$

ⓒ Two fractions that are equal to $\frac{3}{4}$.

$\frac{3}{4}$

$\frac{\dots}{\dots}$

$\frac{\dots}{\dots}$

$\frac{3}{4} = \frac{\dots}{\dots} = \frac{\dots}{\dots}$

4 Complete the following:

a) $\frac{1}{2} = \frac{3}{\dots\dots}$

b) $\frac{2}{3} = \frac{6}{\dots\dots}$

c) $\frac{3}{4} = \frac{\dots\dots}{16}$

d) $\frac{3}{5} = \frac{\dots\dots}{15}$

e) $\frac{\dots\dots}{4} = \frac{18}{24}$

f) $\frac{\dots\dots}{8} = \frac{20}{32}$

g) $\frac{2}{\dots\dots} = \frac{10}{15}$

h) $\frac{4}{\dots\dots} = \frac{8}{18}$

i) $\frac{6}{8} = \frac{3}{\dots\dots}$

j) $\frac{20}{25} = \frac{4}{\dots\dots}$

k) $\frac{12}{18} = \frac{\dots\dots}{3}$

l) $\frac{15}{21} = \frac{\dots\dots}{7}$

m) $\frac{\dots\dots}{36} = \frac{6}{9}$

n) $\frac{\dots\dots}{18} = \frac{5}{9}$

o) $\frac{12}{\dots\dots} = \frac{3}{6}$

p) $\frac{32}{\dots\dots} = \frac{8}{9}$

q) $\frac{63}{\dots\dots} = \frac{7}{9}$

r) $\frac{8}{\dots\dots} = \frac{72}{81}$

5 Complete the following:

a) $\frac{1}{2} = \frac{\dots\dots}{4} = \frac{4}{\dots\dots}$

b) $\frac{2}{5} = \frac{6}{\dots\dots} = \frac{\dots\dots}{20}$

c) $\frac{3}{\dots\dots} = \frac{6}{8} = \frac{\dots\dots}{12}$

d) $\frac{\dots\dots}{3} = \frac{4}{6} = \frac{16}{\dots\dots}$

e) $\frac{\dots\dots}{7} = \frac{8}{\dots\dots} = \frac{40}{70}$

f) $\frac{5}{\dots\dots} = \frac{\dots\dots}{42} = \frac{35}{49}$

g) $\frac{15}{30} = \frac{\dots\dots}{10} = \frac{3}{\dots\dots}$

h) $\frac{16}{24} = \frac{4}{\dots\dots} = \frac{\dots\dots}{3}$

i) $\frac{18}{\dots\dots} = \frac{9}{12} = \frac{\dots\dots}{4}$

j) $\frac{\dots\dots}{2} = \frac{10}{20} = \frac{5}{\dots\dots}$

k) $\frac{\dots\dots}{40} = \frac{8}{\dots\dots} = \frac{2}{5}$

l) $\frac{15}{\dots\dots} = \frac{\dots\dots}{6} = \frac{1}{2}$

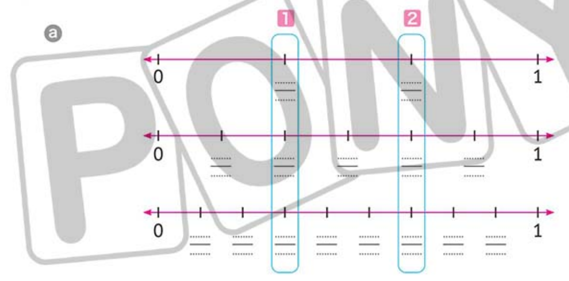
6 Complete the following fraction patterns and describe the patterns:



	Description of the pattern: The numerator	The denominator
a $\frac{1}{4} = \frac{\ldots}{8} = \frac{3}{\ldots} = \frac{\ldots}{\ldots}$	....	....
b $\frac{2}{3} = \frac{\ldots}{6} = \frac{6}{\ldots} = \frac{\ldots}{\ldots}$	....	....
c $\frac{1}{5} = \frac{2}{\ldots} = \frac{\ldots}{15} = \frac{\ldots}{\ldots}$	....	....
d $\frac{1}{2} = \frac{\ldots}{4} = \frac{3}{\ldots} = \frac{\ldots}{8}$	....	....
e $\frac{2}{7} = \frac{4}{\ldots} = \frac{\ldots}{21} = \frac{\ldots}{\ldots}$	....	....
f $\frac{2}{5} = \frac{4}{\ldots} = \frac{\ldots}{15} = \frac{\ldots}{\ldots}$	....	....

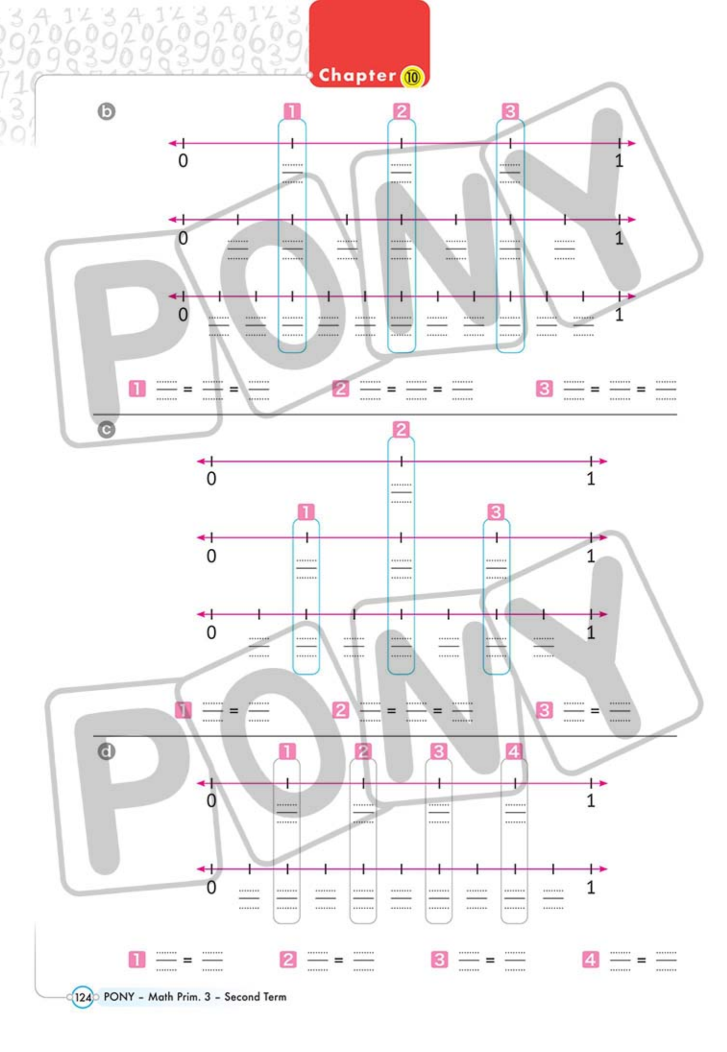
7 Complete the number lines shown, then write the equivalent fractions:

a



1 $\frac{\ldots}{\ldots} = \frac{\ldots}{\ldots} = \frac{\ldots}{\ldots}$

2 $\frac{\ldots}{\ldots} = \frac{\ldots}{\ldots} = \frac{\ldots}{\ldots}$


b
1
2
3
0
1
0
1
0
1
1
=
=
2
=
=
3
=
=
c
2
0
1
1
3
0
1
0
1
1
=
2
=
=
3
=
d
1
2
3
4
0
1
0
1
1
=
2
=
3
=
4
=
PONY

8 Read the following story problems carefully, then complete. Use the provided models to show your answer:

ⓐ Mohamed bought a bar of chocolate with 8 equal parts.

He ate $\frac{1}{4}$ of it during the break.

1 The number of parts Mohamed ate is ....

2 The fraction that represents the parts that Mohamed ate is ....

3 The equivalent fractions are .... = ...

ⓑ A mother made a plate of dessert and divided it into 6 equal parts.

The family ate $\frac{1}{3}$ of the dessert after lunch.

1 The number of parts the family ate is ....

2 The fraction that represents the number of parts the family ate is ....

3 The equivalent fractions are .... = ...

ⓒ Mayar divided a strip of cloth into ten equal parts and used $\frac{1}{2}$ the strip for a headband.

1 The number of parts Mayar used is ....

2 The fraction that represents the number of parts Mayar used is ....

0 1

0 1

3 The equivalent fractions are .... = ...



9 **Jana and Menna each made a large pizza for dinner. Jana's pizza was cut into sixths, and Menna's pizza was cut into twelfths. Jana ate $\frac{2}{6}$ of her pizza.**

If Menna wants to eat the same amount of her pizza as Jana, how many slices of pizza will she have to eat?

Write the answer as a fraction. Draw a number line, model, or picture of your fraction strips to help you solve the problem and explain your answer.

....

....

....

....

....

10 **Moutaz and Kamal were eating same-sized cakes. Moutaz's cake was cut into thirds and Kamal's cake was cut into sixths. Moutaz ate 2 slices of his cake. What fraction of his cake does Kamal have to eat to eat the same amount as Moutaz?**

Draw a number line, model, or picture of your fraction strips to help you solve the problem and explain your answer.

....

....

....

....

Worksheet 2

First: Choose the correct answer:

a) Two-eighths are equivalent to .... ($\frac{1}{8}$ or $\frac{1}{4}$ or $\frac{5}{2}$)

b) The number that comes just after 10,999 is ....

(11,000 or 12,000 or 10,998)

c) 12 + 15 = ... (2 X 3 X 4 or 3 X (4 + 5) or 9 X 4 X 5)

d) 42 ÷ .... = 6 (6 or 7 or 8)

e) .... $- \frac{2}{7} = \frac{3}{7}$ ($\frac{5}{14}$ or $\frac{1}{7}$ or $\frac{5}{7}$)

Second: Complete the following:

a) 4 + 4 + 4 + 4 + 4 = ... X ....

b) 5 X (3 X ....) = (.......... X ....) X 7

c) $\frac{2}{5} + \frac{3}{5} =$ ....

d) $\frac{2}{\dots} = \frac{4}{6} = \frac{\dots}{9}$

e) $\frac{1}{3} = \frac{2}{6} = \frac{3}{\dots} = \frac{\dots}{\dots}$

Third: Answer the following:

a) Complete the number lines shown, then write the equivalent fractions:

1) $\frac{\dots}{\dots} = \frac{\dots}{\dots}$

2) $\frac{\dots}{\dots} = \frac{\dots}{\dots}$

3) $\frac{\dots}{\dots} = \frac{\dots}{\dots}$

1 2 3

0 1

0 1

b) Mohamed bought a bar of chocolate with 8 equal parts.

He ate 4 parts of it during the break.

The fraction that represents the parts that Mohamed ate is ....



Multiplication and Division

الضرب والقسمة

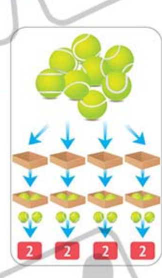
Division Using Bar Models

القسمة باستخدام النماذج الشريطية

Ex.

Sarah wants to put 8 tennis balls equally in 4 boxes.
How many balls will be in each box? Use a bar model.





Division Equation: $8 \div 4 = 2$ balls

1 **Answer the following using the bar models:**

ⓐ Omar has 18 pieces of candy. He wants to give the same amount to each of his six friends.

How many pieces would each friend get?

....

Division Equation:

....

ⓑ You have 20 figs to divide evenly on 4 plates.

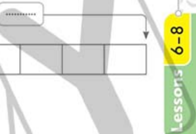
How many figs should you put on each plate?

....

Division Equation:

....

ⓒ Diaa has 36 toys that he would like to split evenly among six of his friends. How many toys should each friend receive?



Division Equation:

....



Write a story problem that matches the bar model below.



Ahmed had 35 pounds. He shared this sum with his four brothers. What is the share of each one?

Answer: 35 ÷ 5 = 7 pounds

2 Write a story problem that matches the bar model below:



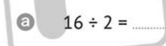
....

....

....

....

3 Complete the bar model to find the quotient:



ⓐ 16 ÷ 2 = ...



ⓑ 12 ÷ 3 = ...



ⓒ 28 ÷ 4 = ...





The Relationship Between Multiplication and Division

العلاقة بين الضرب والقسمة

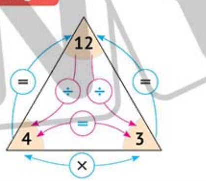
Multiplication and Division Fact-Family Triangle

$3 \times 4 = 12$

$4 \times 3 = 12$

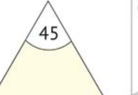
$12 \div 3 = 4$

$12 \div 4 = 3$



4 For each fact family below, find the **missing factor** and write **four different equations** to show the relationships among the family members:

ⓐ



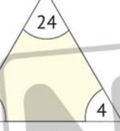
.... × .... = ...

.... × .... = ...

.... ÷ .... = ...

.... ÷ .... = ...

ⓑ



.... × .... = ...

.... × .... = ...

.... ÷ .... = ...

.... ÷ .... = ...

ⓒ



.... × .... = ...

.... × .... = ...

.... ÷ .... = ...

.... ÷ .... = ...





HOME ACTIVITIES

1 Answer the following story problems:

ⓐ There are 28 crayons in the classroom that need to be placed in 4 cups. Each cup must have the same number of crayons. How many crayons will be placed in each cup?

28			

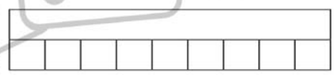
ⓑ Diaa has 36 toys that he would like to split evenly among six of his friends. How many toys should each friend receive?

ⓒ You have 18 dates. Each of your friends will get 2 dates. How many friends can you feed?

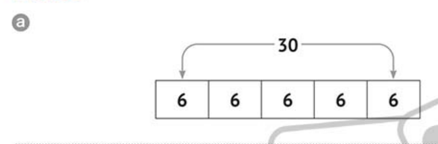
ⓓ The class has 28 students. You can fit each 4 students on a swing set. How many swing sets are needed for the whole class to swing?

ⓔ Diaa placed 40 marbles in rows of 5. How many rows did he make?

f Omnia studied 14 hours in total. If she studied for 2 hours each day, how many days did she study?



g Seif is sorting crayons into groups of nine.
How many groups will he make if he has 81 crayons?



2 **Write a story problem that matches each of the following bar models:**

a

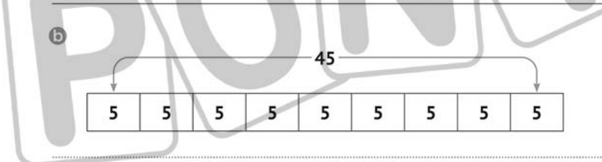
30

6	6	6	6	6

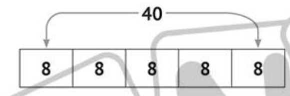
b

45

5	5	5	5	5	5	5	5	5



ⓒ



....

....

....

....

3 **For each fact family below, find the missing factor and write different equations to show the relationships among the family members:**

ⓐ

15

5 ......

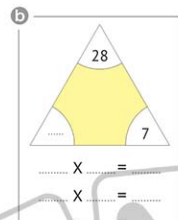
...... X ...... = ...

...... X ...... = ...

...... ÷ ...... = ...

...... ÷ ...... = ...

ⓑ



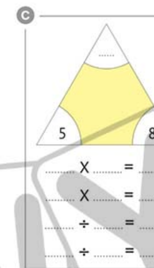
...... X ...... = ...

...... X ...... = ...

...... ÷ ...... = ...

...... ÷ ...... = ...

ⓒ



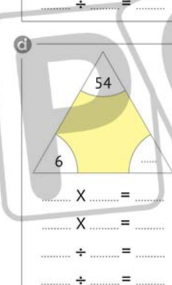
...... X ...... = ...

...... X ...... = ...

...... ÷ ...... = ...

...... ÷ ...... = ...

ⓓ



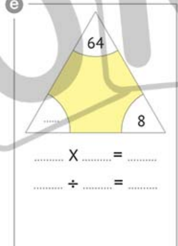
...... X ...... = ...

...... X ...... = ...

...... ÷ ...... = ...

...... ÷ ...... = ...

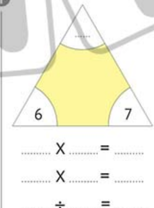
ⓔ



...... X ...... = ...

...... ÷ ...... = ...

ⓕ



...... X ...... = ...

...... X ...... = ...

...... ÷ ...... = ...

...... ÷ ...... = ...

Worksheet 

First: **Choose the correct answer:**

a) Nine hundred fifty thousand, ninety-five **(in digits)** = ...
(95,095 or 905,095 or 950,095)

b) 9 + 9 = ... (6 X 3 or 9 X 9 or 9 + 2)

c) .... + $\frac{1}{5}$ = $\frac{2}{5}$ ($\frac{1}{5}$ or $\frac{2}{5}$ or $\frac{3}{5}$)

d) Two-fifths = ... ($\frac{2}{6}$ or $\frac{5}{2}$ or $\frac{2}{5}$)

e) (6 X 5) + (6 X 5) = ... (6 X 25 or 6 X 10 or 12 X 10)

Second: **Complete the following:**

a) $\frac{3}{4} = \frac{6}{\ldots}$

b) $\frac{7}{8} - \frac{3}{8}$ = ...

c) Perimeter of the square = ... X ....

d) 6 X 5 = ... + ... + ...

e) $1 = \frac{7}{\ldots}$

Third: **Answer the following:**

a) **Find the missing factor in the fact-family triangle, then complete:**

1) .... X .... = ...
2) .... X .... = ...
3) .... ÷ .... = ...
4) .... ÷ .... = ...

(triangle: ...., 4, 8)

b) **Use the following figure to complete:**

1) Area = ...
= .... sq cm.

2) Perimeter = ...
= .... cm.

(square: 5 cm, 5 cm)

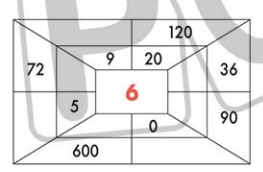
c) **Diaa placed 40 marbles in rows of five. How many rows did he make?**

....

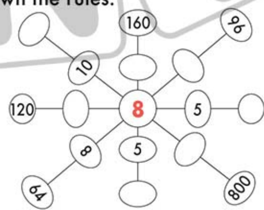


1 Missing numbers:

Fill in the missing numbers and write down the rules.



Rule: ....



Rule: ....

2 Marbles:

Write a division equation to show how 32 marbles can be shared equally among:

a 2 children

.... ÷ .... = ...

b 4 children

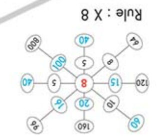
.... ÷ .... = ...

c 8 children

.... ÷ .... = ...

Answers

1 Rule : X 6



Rule : X 8

2 a 32 ÷ 2 = 16
b 32 ÷ 4 = 8
c 32 ÷ 8 = 4

Chapter 11



Chapter Lessons

Lessons 1–4 Multiplication and Division

Outcomes:

- Developing fluency in multiplying one-digit numbers.
- Identifying strategies to help him/her remember multiplication facts.
- Investigating relationships between numbers in multiplication and division fact families.
- Writing equations to represent multiplication and division relationships within a fact family.
- Explaining how he/she can use the relationship between multiplication and division fact families to master math facts.
- Using a symbol to represent an unknown number in an equation.
- Writing equations with one unknown number to represent story problems.
- Solving equations with one unknown.
- Writing story problems that represent given equations.
- Applying strategies to solve multiplication story problems.
- Applying strategies to solve division story problems.
- Defining division.

Lesson 5 Story Problems on Perimeter and Area

Outcomes:

- Finding the areas and perimeters of quadrilaterals.
- Finding the perimeters of shapes that are not quadrilaterals.
- Collaborating to write class definitions of area and perimeter.

Lessons 6&7 The Perimeter For a Given Area and a side length

Outcomes:

- Determining the perimeter of a rectangle when given the area and one dimension.
- Making a house design project to demonstrate his/her understanding of area and perimeter.

Key Vocabulary

- Fluency
- Product
- Fact family
- Multiplication
- Division
- Quotient
- Factor
- Dividend
- Divisor
- Equation
- Symbol
- Unknown
- Story problem
- Area
- Perimeter
- Square units
- Complex shapes
- Factor pairs
- Dimensions



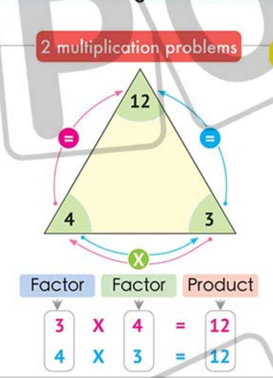
Multiplication and Division الضرب والقسمة

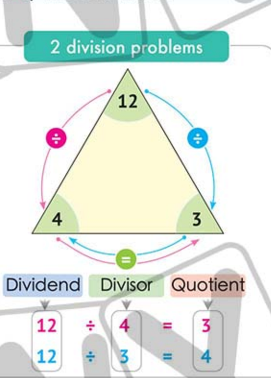


Multiplication and Division Fact-Family Triangle

Using the numbers 3 and 4, we can write:

2 multiplication problems and 2 division problems





1 Find the result of each of the following:

a) 2 X 2 = ... b) 7 X 3 = ... c) 2 X 4 = ...

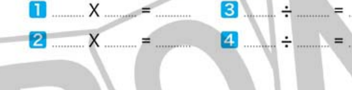
d) 4 X 4 = ... e) 3 X 6 = ... f) 3 X 8 = ... g) 4 X 6 = ...

h) 28 ÷ 7 = ... i) 30 ÷ 5 = ... j) 36 ÷ 6 = ...

k) 7 ⟌ 49 = ... l) 9 ⟌ 63 = ... m) 8 ⟌ 56 = ... n) 8 ⟌ 64 = ...

2 Use each two numbers below to complete the **fact family**:

ⓐ **5** and **9**



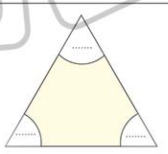
1 .... X .... = ... 3 .... ÷ .... = ...

2 .... X .... = ... 4 .... ÷ .... = ...

ⓑ **7** and **4**

1 .... X .... = ... 3 .... ÷ .... = ...

2 .... X .... = ... 4 .... ÷ .... = ...



3 Read each story problem below.

Write an equation with an unknown to represent what is happening in the problem. Then, solve it.

You may use the fact-family triangle to help you with your answer.

ⓐ You have 20 crayons. You want to put the crayons into boxes. Each box can hold 5 crayons. How many boxes will you need?

Equation with an unknown: .... X 5 = 20

Answer: ....

....

ⓑ There are 9 elephants at the zoo. Each elephant eats 2 bales of hay in a day. How many bales of hay does the zookeeper need to feed all 9 elephants for one day?

Equation with an unknown: ....

Answer: ....

....

Ⓒ Adam baked 24 cookies. He gave a bag of cookies to each of his eight friends. How many cookies were there in each bag?

Equation with an unknown: ....

Answer: ....

....



Write a multiplication story problem that could be represented by the equation $4 \times 5 =$ ....

Ehab has 5 bags with 4 pens each.
How many pens does Ehab have?

4 **Write a multiplication story problem that could be represented by the following equation. Solve the problem to show the result.**

$3 \times 6 =$ ....

....

....

....

5 **Write a division story problem that could be represented by the following equation. Solve the problem to show the result.**

$30 \div 6 =$ ....

....

....

....



HOME ACTIVITIES

1 Complete:

2 X 2 = ...	2 X 3 = ...	2 X 4 = ...
3 X 3 = ...	2 X 5 = ...	3 X 4 = ...
2 X 6 = ...	2 X 7 = ...	3 X 5 = ...
4 X 4 = ...	2 X 8 = ...	3 X 6 = ...
2 X 9 = ...	4 X 5 = ...	3 X 7 = ...
4 X 6 = ...	3 X 8 = ...	5 X 5 = ...
3 X 9 = ...	4 X 7 = ...	5 X 6 = ...
4 X 8 = ...	5 X 7 = ...	4 X 9 = ...
6 X 6 = ...	5 X 8 = ...	6 X 7 = ...
5 X 9 = ...	6 X 8 = ...	7 X 7 = ...
6 X 9 = ...	7 X 8 = ...	8 X 8 = ...
7 X 9 = ...	8 X 9 = ...	9 X 9 = ...

2 X .... = 4	6 X .... = 18	9 X .... = 36
3 X .... = 6	5 X .... = 20	8 X .... = 40
4 X .... = 8	7 X .... = 21	7 X .... = 42
3 X .... = 9	8 X .... = 24	9 X .... = 45
5 X .... = 10	6 X .... = 24	8 X .... = 48
6 X .... = 12	5 X .... = 25	7 X .... = 49
4 X .... = 12	9 X .... = 27	9 X .... = 54
7 X .... = 14	7 X .... = 28	8 X .... = 56
5 X .... = 15	6 X .... = 30	9 X .... = 63
4 X .... = 16	8 X .... = 32	8 X .... = 64
8 X .... = 16	7 X .... = 35	9 X .... = 72
9 X .... = 18	6 X .... = 36	9 X .... = 81

2 Choose the correct answer:

a) 8 + 8 + 8 = ... (8 X 3 or 8 + 3 or 8 X 8)

b) 8 X 2 = ... (8 + 2 or 8 + 8 or 8 X 8)

c) 6 + 6 = ... (6 X 2 or 6 X 6 or 6 + 2)

d) 2 X 5 ◯ 3 X 3 (< or = or >)

e) 8 + 8 + 8 ◯ 6 X 4 (< or = or >)

f) 5 X 6 = 3 X .... (5 or 10 or 6)

g) 6 + 6 + 6 + 6 = 3 X .... (8 or 6 or 4)

h) 7 X 4 X 10 = ... X 10 (280 or 4 or 28)

i) 28 X 10 = 4 X .... X 10 (7 or 280 or 40)

j) 9 X .... = 6 X 9 (6 or 9 or 54)

3 Complete the following:

a) 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 = ... X .... = ...

b) 5 X 8 = ... + ... + ... + ... + ... = ...

c) 4 + 4 + 4 + 4 + 4 = 2 X .... = ...

d) 5 X 8 = 4 X .... = ...

e) 52 X 10 = ...

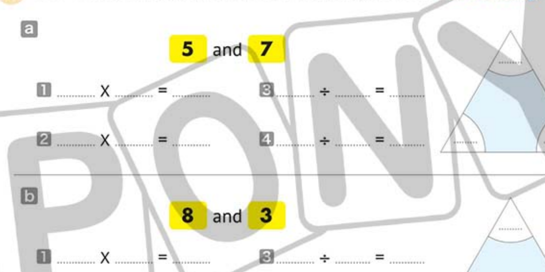
f) 32 ÷ .... = 8

g) .... ÷ 8 = 4

h) 55 X .... = 550

i) 8 X 50 = ... X .... X .... = ... X .... = ...

4 Use each two numbers below to complete the fact family:



a

5 and **7**

1 ………… X ………… = …………

2 ………… X ………… = …………

3 ………… ÷ ………… = …………

4 ………… ÷ ………… = …………

---

b

8 and **3**

1 ………… X ………… = …………

2 ………… X ………… = …………

3 ………… ÷ ………… = …………

4 ………… ÷ ………… = …………

---

c

9 and **4**

1 ………… X ………… = …………

2 ………… X ………… = …………

3 ………… ÷ ………… = …………

4 ………… ÷ ………… = …………

---

d

6 and **2**

1 ………… X ………… = …………

2 ………… X ………… = …………

3 ………… ÷ ………… = …………

4 ………… ÷ ………… = …………

---

e

7 and **8**

1 ………… X ………… = …………

2 ………… X ………… = …………

3 ………… ÷ ………… = …………

4 ………… ÷ ………… = …………

5 **Read each story problem below.**
Write an equation with an unknown to represent what is happening in the problem. Then, solve it.
You may use the fact-family triangle to help you with your answer.

ⓐ The zookeeper has 81 fish. Each crocodile at the zoo gets 9 fish. If all the crocodiles are fed, how many crocodiles are there at the zoo?

Equation with an unknown: ....

Answer: ....

ⓑ Adam and his friends went to the zoo. The tickets cost 3 LE each. If Adam and his friends spent 27 LE altogether, how many tickets did they buy?

Equation with an unknown: ....

Answer: ....

ⓒ At the hippo exhibit in the zoo, Adam and his friends counted 16 hippo feet. If each hippo has 4 feet, how many hippos are there at the zoo?

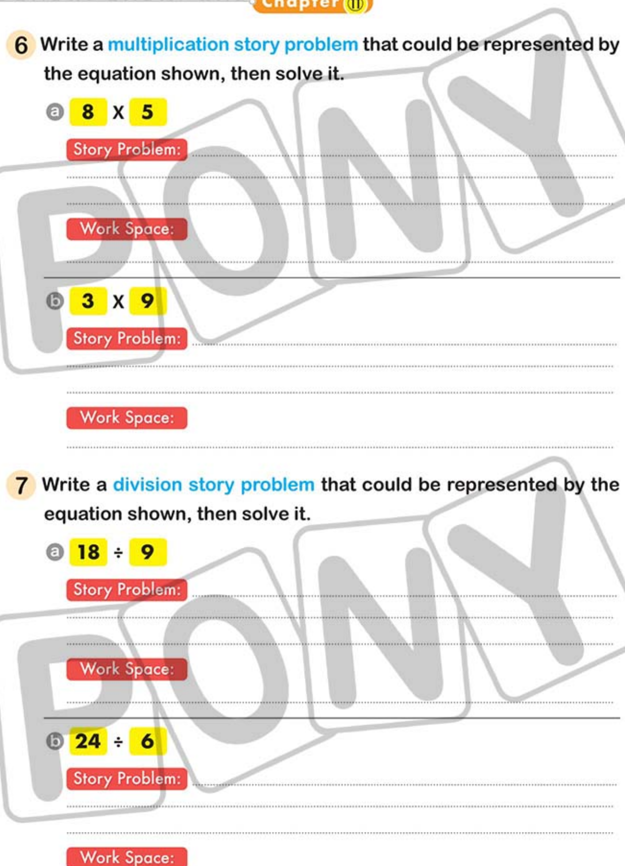
Equation with an unknown: ....

Answer: ....

ⓓ The zookeeper is giving a talk at an auditorium about peacocks. Adam and his friends go to listen. The auditorium can hold 48 people. If there are 6 rows, how many chairs are there in each row?

Equation with an unknown: ....

Answer: ....



6 Write a multiplication story problem that could be represented by the equation shown, then solve it.

ⓐ 8 x 5

Story Problem: ....

....

....

Work Space:

....

ⓑ 3 x 9

Story Problem: ....

....

....

Work Space:

....

7 Write a division story problem that could be represented by the equation shown, then solve it.

ⓐ 18 ÷ 9

Story Problem: ....

....

....

Work Space:

....

ⓑ 24 ÷ 6

Story Problem: ....

....

....

Work Space:

....

Worksheet 

First: **Choose the correct answer:**

a. If 4 x 12 = 48, then 48 ÷ 4 = ... (12 or 4 or 48)

b. The square has .... sides. (3 or 4 or 5)

c. 20 Thousands = ... Hundreds. (20 or 200 or 2,000)

d. 7 x 15 = ... (7 x (10 x 5) or 7 + (10 + 5) or 7 x (10 + 5))

e. $\frac{2}{6}$ ◯ $\frac{4}{6}$ (< or = or >)

Second: **Complete the following:**

a. (8 x 4) x 5 = 8 x (......... x ....) = 8 x .... = ...

b. 50 + 100,000 + 5,000 = ...

c. If 7 x 5 = ..., then .... ÷ 7 = 5, and .... ÷ 5 = 7.

d. $\frac{3}{5} - \frac{2}{5} =$ ....

e. $\frac{2}{9} + \frac{3}{9} + \frac{3}{9} =$ ....

Third: **Answer the following:**

a. **Find the result:**

1. 6 x 15 = ...
2. 72 ÷ 9 = ...
3. 2 x 4 x 5 = ...
4. 24 ÷ 4 = ...

b. **Use the following figure to complete:**

1. Area = 18 sq cm.
2. Perimeter = ...

= .... cm.

......cm

9 cm

c. **An apple has an average mass of 70 grams, and an orange has an average mass of 130 grams. If Basma has 4 apples and 4 oranges, what is the mass of all the fruits she has?**

....

....

Lesson 5 Story Problems on Perimeter and Area

مسائل كلامية على المحيط والمساحة

(1) Rectangle

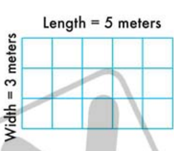
Ex.

There is a rectangular room, 5 meters long and 3 meters wide.
Model it, then find its **perimeter** and **area**.

First Solution Method

Perimeter

The rectangle has 4 sides, each two opposite sides are equal in length. So, the perimeter = 5 + 3 + 5 + 3 = 16 meters.



Area

The rectangle can be divided into units.
Area = 15 square meters.

Second Solution Method

Perimeter

Using the following rule:
Perimeter = (Length + Width) X 2
= (5 + 3) X 2 = 8 X 2 = 16 meters.

Length = 5 meters
Width = 3 meters

Area

Using the following rule:
Area = Length X Width = 5 X 3
= 15 square meters.

1 Complete the following table:

	Length	Width	Perimeter of the Rectangle	Area of the Rectangle
a	7 cm	5 cm	(...... + ...) X ...... = ... cm.	...... X ...... = ... square cm.
b	6 cm	3 cm	(...... + ...) X ...... = ... cm.	...... X ...... = ... square cm.
c	8 cm	4 cm	(...... + ...) X ...... = ... cm.	...... X ...... = ... square cm.

(2) Square

Ex.

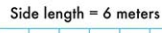
A square-shaped room has a side length of 6 meters.
Model it, then find its perimeter and area.

First Solution Method

Perimeter

The square has 4 sides, and all sides are equal in length.

Perimeter = 6 + 6 + 6 + 6 = 24 meters.





Area

The square can be divided into equal square units.

Area = 36 square meters.

Second Solution Method

Perimeter

Using the following rule:

Perimeter = Side Length X 4
= 6 X 4 = 24 meters.



Area

Using the following rule:

Area = Side Length X Side Length
= 6 X 6 = 36 square meters.



2 **Complete the following table:**

	Side Length	Perimeter of the Square	Area of the Square
a	2 cm	.... X .... = ... cm.	.... X .... = ... square cm.
b	7 cm	.... X .... = ... cm.	.... X .... = ... square cm.
c	9 cm	.... X .... = ... cm.	.... X .... = ... square cm.

3 **Read the following problems. Sketch each shape and label it. Then, find the perimeter and area, showing your steps below.**

a) Gehad drew a square that has a side length of 8 cm.

Perimeter = ...

....

Area = ...

....

b) Ashraf has a rectangular rug in his house that measures 8 meters by 2 meters.



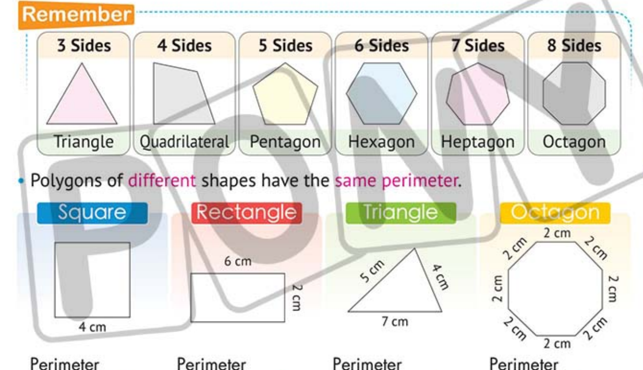
Perimeter = ...

....

Area = ...

....

Remember

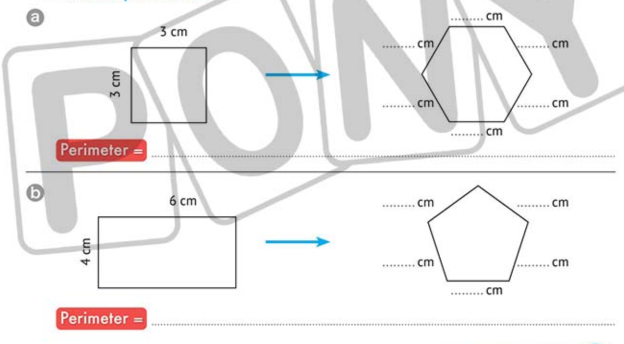


- Polygons of different shapes have the same perimeter.

Square	Rectangle	Triangle	Octagon
Perimeter = 4 X 4 = 16 cm.	Perimeter = (6+2) X 2 = 16 cm.	Perimeter = 7 + 5 + 4 = 16 cm.	Perimeter = 2 X 8 = 16 cm.

- The square, rectangle, triangle, and octagon have different numbers of sides, but they have the same perimeter.

4 Find the perimeter of each of the following shapes, and then find the appropriate dimensions for the opposite shape to have the same perimeter:





HOME ACTIVITIES

1 Complete the following table:

	Length	Width	Perimeter of the Rectangle	Area of the Rectangle
a	4 cm	3 cm	(....... + ...) X .... = ... cm.	.... X .... = ... square cm.
b	5 cm	2 cm	(....... + ...) X .... = ... cm.	.... X .... = ... square cm.
c	7 cm	6 cm	(....... + ...) X .... = ... cm.	.... X .... = ... square cm.
d	9 cm	5 cm	(....... + ...) X .... = ... cm.	.... X .... = ... square cm.
e	8 cm	4 cm	(....... + ...) X .... = ... cm.	.... X .... = ... square cm.
f	6 cm	3 cm	(....... + ...) X .... = ... cm.	.... X .... = ... square cm.
g	10 cm	7 cm	(....... + ...) X .... = ... cm.	.... X .... = ... square cm.

2 Complete the following table:

	Side Length	Perimeter of the Square	Area of the Square
a	5 cm	.... X .... = ... cm.	.... X .... = ... square cm.
b	9 cm	.... X .... = ... cm.	.... X .... = ... square cm.
c	6 cm	.... X .... = ... cm.	.... X .... = ... square cm.
d	2 cm	.... X .... = ... cm.	.... X .... = ... square cm.
e	7 cm	.... X .... = ... cm.	.... X .... = ... square cm.
f	4 cm	.... X .... = ... cm.	.... X .... = ... square cm.
g	3 cm	.... X .... = ... cm.	.... X .... = ... square cm.

3 **Find the area and perimeter of each of the following shapes:**

a) 1 Area = ...
.... sq cm.
2 Perimeter = ...
.... cm.

(Square: 5 cm, 5 cm)

b) 1 Area = ...
.... sq cm.
2 Perimeter = ...
.... cm.

(Square: 7 cm, 7 cm)

c) 1 Area = ...
.... sq m.
2 Perimeter = ...
.... m.

(Square: 3 m, 3 m)

d) 1 Area = ...
.... sq cm.
2 Perimeter = ...
.... cm.

(Rectangle: 8 cm, 5 cm)

e) 1 Area = ...
.... sq m.
2 Perimeter = ...
.... m.

(Rectangle: 2 m, 4 m)

f) 1 Area = ...
.... sq cm.
2 Perimeter = ...
.... cm.

(Rectangle: 5 cm, 3 cm)

4 **Read the following problems. Sketch each shape and label it. Then, find the perimeter and area showing your steps below:**

ⓐ Gehad drew a square that has a side length of 8 cm.

Perimeter = ...

....

Area = ...

....

ⓑ A square has a side length of 10 cm.

Perimeter = ...

....

Area = ...

....

5 **Read the following problems. Sketch each shape and label it. Then, find the perimeter and area showing your steps below:**

ⓐ Ashraf has a rectangular rug in his house that measures 8 meters by 2 meters.

Perimeter = ...

....

Area = ...

....

ⓑ A rectangle has 7 cm length and 4 cm width.

Perimeter = ...

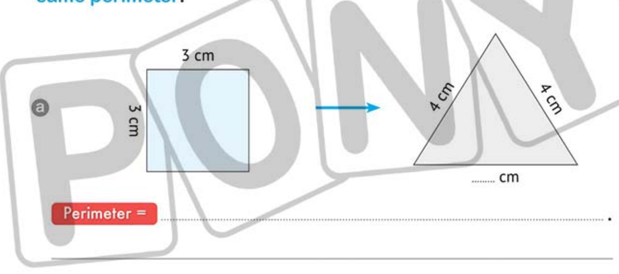
....

Area = ...

....

6 Find the **perimeter** of each of the following shapes, and then find the **appropriate dimensions** for the opposite shape to have the **same perimeter**:

a



Perimeter = ...

b

6 cm

4 cm

.... cm .... cm

.... cm .... cm

.... cm

Perimeter = ...

c

10 cm

8 cm

.... cm

.... cm .... cm

.... cm .... cm

.... cm

Perimeter = ...

d

Perimeter = ...

e

Perimeter = ...

7 Answer the following:

a The side lengths of a triangle are 8 cm, 7 cm and 7 cm.

Its perimeter = ...

Draw a rectangle with the same perimeter.

Show the lengths of its sides on the drawing.

b Mohab drew a hexagon with a perimeter of 24 cm.
Sketch Mohab's hexagon.

Draw a quadrilateral with the same perimeter.

Show the lengths of its sides on the drawing.

Hexagon   Quadrilateral

8 **Magdy drew 6 equal-sized rectangles as shown below to make a new, larger rectangle.**
The small rectangles are 4 cm by 3 cm.

ⓐ What is the perimeter of Magdy's new rectangle?

....

....

4 cm

3 cm

ⓑ What is the area of Magdy's new rectangle?

....

9 **Jana drew a rectangle with a length of 7 cm and a width of 4 cm, and Mona drew a rectangle with a length of 5 cm and a width of 4 cm.**

ⓐ **Sketch Jana's and Mona's rectangles.**

ⓑ **What is the perimeter of Jana's rectangle?**

....

ⓒ **What is the perimeter of Mona's rectangle?**

....

ⓓ **What would be the perimeter if they laid their rectangles side by side to make one long rectangle?**

....

....

ⓔ **What is the area of the new long rectangle?**

....

....

Worksheet 2

First: Choose the correct answer:

a) $\frac{2}{6}$ ◯ $\frac{2}{4}$ (< or = or >)

b) 4 X 5 = ... (4 + 4 + 4 + 4 or 10 + 10 or 2 X 7)

c) 8 X 20 = ... (8 X (4 + 5) or 8 + (4 X 5) or 8 X (4 X 5))

d) 4 X .... > 21 (4 or 5 or 6)

e) 3 X 8 = 6 .... 4 (+ or – or X)

Second: Complete the following:

a) The area of a square with a side length of 4 cm is .... sq cm.

b) 5 X 8 = 32 + ...

c) 6 X .... = 60 – 6

d) $\frac{1}{4} + \frac{3}{4}$ = ... = ...

e) $\frac{1}{3} = \frac{2}{6} = \frac{3}{....} = \frac{....}{....}$

Third: Answer the following:

a) Find the result:

1. 4,521 + 2,572 = ...
2. 8 X 12 = ...
3. 9,012 – 4,090 = ...
4. (5 X 4) + (5 X 6) = 5 X .... = ...

b) Arrange the results of the following in an ascending order:

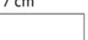
8 X 9 , 4 X (10 + 2) , 48 + 20 , 7 + 7 + 7 , 100 – 10

.... , ... , ... , ... , ...

c) Use the following figure to find:

1. Perimeter = ...

....



2. Area = ...

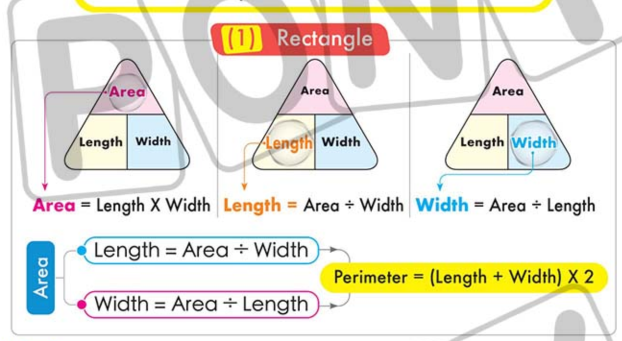


The Perimeter For a Given Area and a side length

المحيط بمعلومية المساحة وطول أحد الأضلاع

The Relationship Between the Perimeter & Area

(1) Rectangle



Area = Length X Width | Length = Area ÷ Width | Width = Area ÷ Length

Area:
- Length = Area ÷ Width
- Width = Area ÷ Length

Perimeter = (Length + Width) X 2

Ex.

A rectangular piece of land has an area of 48 square meters and a width of 6 meters. Find its length and perimeter.

Answer: Length = Area ÷ Width = 48 ÷ 6 = 8 meters.

Perimeter = (Length + Width) X 2 = (8 + 6) X 2

= 14 X 2 = 28 meters.

1 Complete the following table:

	Area of the Rectangle	Length	Width	Perimeter of the Rectangle
a	30 square cm	10 cm	.... cm	(..... + ...) X ..... = ... cm.
b	35 square cm	.... cm	5 cm	(..... + ...) X ..... = ... cm.
c	48 square cm	8 cm	.... cm	(..... + ...) X ..... = ... cm.
d	63 square cm	.... cm	7 cm	(..... + ...) X ..... = ... cm.

2 The area of a rectangle is 18 square cm, and its length is 6 cm. Find the width of the rectangle and its perimeter.

....

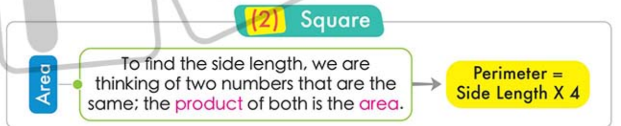
....

3 The area of a rectangle is 21 square cm, and its width is 7 cm. Find the length of the rectangle and its perimeter.

....

....

(2) Square



Ex.

The area of a square is 36 square cm. Find its perimeter.

Answer: 36 = 6 X 6. So, the side length = 6 cm.

Perimeter = Side Length X 4

= 6 X 4 = 24 centimeters.

4 Complete the following table:

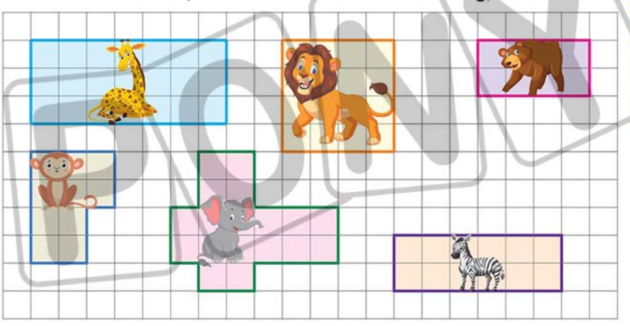
	Area of the Square	Side Length	Perimeter of the Square
a	25 square cm	.... cm	.... X .... = ... cm.
b	49 square cm	.... cm	.... X .... = ... cm.
c	81 square cm	.... cm	.... X .... = ... cm.

5 The are of a square is 9 square meters. Find its perimeter.

....

....

6 **Mohamed went to the zoo and then made a sketch of the animals' houses, as shown. Consider the drawing, then answer:**



1 **Complete the following table:**

Animal's House	Monkey	Elephant	Giraffe	Lion	Bear	Zebra
Perimeter (Length Unit)						
Area (Square Unit)						

2 **Complete using (<, =, or >):**

ⓐ The area of the monkey's house. ◯ The area of the elephant's house.

ⓑ The perimeter of the giraffe's house. ◯ The perimeter of the lion's house.

ⓒ The area of the bear's house. ◯ The area of the zebra's house.

ⓓ The perimeter of the monkey's house. ◯ The perimeter of the elephant's house.

ⓔ The area of the giraffe's house. ◯ The area of the lion's house.

3 Complete the following:

ⓐ The animal that has the largest house in perimeter is the ....

ⓑ The animal that has the smallest house in perimeter is the ....

ⓒ The animal that has the largest house in area is the ....

ⓓ The animal that has the smallest house in area is the ....

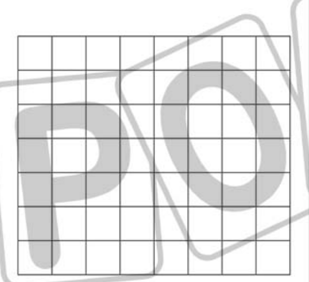
ⓔ The difference between the perimeters of the giraffe's house and the elephant's house = ...

ⓕ The difference between the areas of the lion's house and the monkey's house = ...

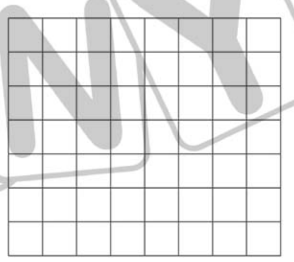
ⓖ The difference between the perimeters of the bear's house and the zebra's house = ...

ⓗ The difference between the areas of the lion's house and the giraffe's house = ...

4 ⓐ **Draw another shape with the same area as the lion's house.**



ⓑ **Draw another shape with the same perimeter as the bear's house.**





HOME ACTIVITIES

1 Complete the following table:

	Area of the Rectangle	Length	Width	Perimeter of the Rectangle
a	16 square cm	8 cm	...... cm	(...... + ...) X ...... = ... cm.
b	28 square cm	...... cm	4 cm	(...... + ...) X ...... = ... cm.
c	12 square cm	4 cm	...... cm	(...... + ...) X ...... = ... cm.
d	24 square cm	...... cm	4 cm	(...... + ...) X ...... = ... cm.
e	14 square cm	7 cm	...... cm	(...... + ...) X ...... = ... cm.
f	36 square cm	...... cm	4 cm	(...... + ...) X ...... = ... cm.
g	20 square cm	5 cm	...... cm	(...... + ...) X ...... = ... cm.
h	40 square cm	...... cm	5 cm	(...... + ...) X ...... = ... cm.

2 Complete the following table:

	Area of the Square	Side Length	Perimeter of the Square
a	81 square cm	.... cm	.... X .... = ... cm.
b	4 square cm	.... cm	.... X .... = ... cm.
c	64 square cm	.... cm	.... X .... = ... cm.
d	9 square cm	.... cm	.... X .... = ... cm.
e	49 square cm	.... cm	.... X .... = ... cm.
f	16 square cm	.... cm	.... X .... = ... cm.
g	36 square cm	.... cm	.... X .... = ... cm.

3 Use the following figures to complete:

ⓐ Area = 9 sq cm.

Side Length = ... cm.

Perimeter = ... = ... cm.

ⓑ Area = 25 sq cm.

Side Length = ... cm.

Perimeter = ... = ... cm.

ⓒ Area = 24 sq cm.

Width = ... = ... cm.

Perimeter = ... = ... cm.

ⓓ Area = 18 sq cm.

Width = ... = ... cm.

Perimeter = ... = ... cm.

ⓔ Area = 30 sq cm.

Length = ... = ... cm.

Perimeter = ... = ... cm.

ⓕ Area = 32 sq cm.

Length = ... = ... cm.

Perimeter = ... = ... cm.

4 The area of a rectangle is 36 sq cm and its width is 4 cm. What is the perimeter of the rectangle?

Length = ... = ... cm.

Perimeter = ... = ... cm.

5 The area of a rectangular field at the park is 44 sq meters. The length of the field is 11 meters.

Draw a sketch of the field and label all the sides.

What is the perimeter of the field?

Width = ... = ... m.

Perimeter = ... = ... m.

6 The area of Hala's rectangular bedroom is 24 sq meters.

The length of her bedroom is 8 meters.

What is the perimeter of her room?

Width = ... = ... m.

Perimeter = ... = ... m.

7 The area of a square is 36 sq cm.

Find the perimeter of the square.

36 = ... X ....   So, side length = ... cm.

Perimeter = ... = ... cm.

8 The area of a square is 64 sq cm.

Find the perimeter of the square.

64 = ... X ....   So, side length = ... cm.

Perimeter = ... = ... cm.

9 Hassan's DREAM HOUSE

The corresponding drawing represents Hassan's house.
Study the drawing carefully and then answer.

1 Complete the following table:

Room	Length (Length Unit)	Width (Length Unit)	Perimeter (Length Unit)	Area (Square Unit)
Bedroom (1)	....	....	....	....
Bedroom (2)	....	....	....	....
Living Room	....	....	....	....
Kitchen	....	....	....	....
Bathroom	....	....	....	....

2 Complete the following sentences:

a. The largest room in area is ....
b. The largest room in perimeter is ....
c. The smallest room in area is ....
d. The smallest room in perimeter is ....
e. The difference between the living room area and bedroom (1) area is ....
f. The difference between the kitchen perimeter and the bathroom perimeter is ....

3 Compare using (<, =, or >):

a. The area of bedroom (1) ☐ The area of bedroom (2)
b. The area of the living room ☐ The area of the kitchen
c. The perimeter of bedroom (1) ☐ The perimeter of bedroom (2)
d. The perimeter of the living room ☐ The perimeter of the kitchen

Worksheet 3

First: **Choose the correct answer:**

a) $8 \times \ldots\ldots = (8 \times 9) + (8 \times 6)$ (15 or 54 or 2)

b) $4 \times (5 \times 9) = \ldots\ldots \times 9$ (9 or 20 or 45)

c) $\frac{3}{5} = \ldots\ldots$ (Three-fifths or Five-thirds or Thirty-five)

d) $\frac{2}{6}$ ◯ $\frac{2}{8}$ (< or = or >)

e) The largest 5-digit number that can be formed from the digits 2, 7, and 5 is .... (25,777 or 75,200 or 77,752)

Second: **Complete the following:**

a) The area of a rectangle is 56 sq cm, and its length is 8 cm, then the **perimeter** of the rectangle is .... cm.

b) $3 + 3 + 3 + 3 + 3 + 3 = 2 \times \ldots\ldots$

c) There are .... ninths in one whole.

d) $\frac{3}{6} = \frac{9}{\ldots}$

e) $\frac{1}{4} = \frac{2}{\ldots} = \frac{3}{\ldots} = \frac{4}{\ldots}$

Third: **Answer the following:**

Find the result:

1) $4,562 + 438 = \ldots\ldots$

2) $4,000 - 563 = \ldots\ldots$

3) $\frac{1}{7} + \frac{2}{7} + \frac{3}{7} = \frac{\ldots}{\ldots}$

4) $1 - \frac{4}{9} = \frac{\ldots}{\ldots}$



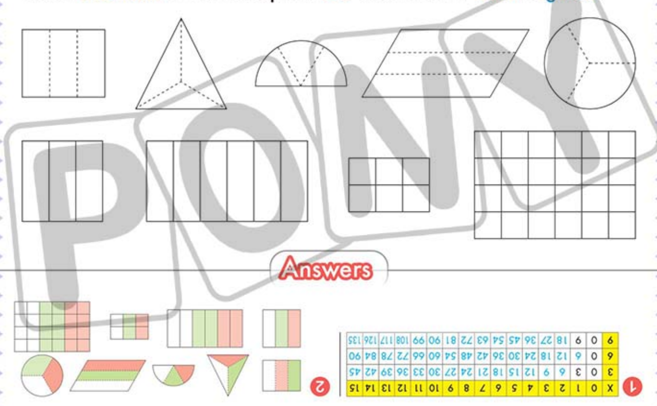
1 Multiply:

Complete the following table. Multiply the numbers in the top row by 3, 6 and 9.

X	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
3	0	3														
6	0															
9	0	9														

2 Color:

Color one-third of each shape in red and another third in green.



Answers

1

X	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
3	0	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45
6	0	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90
9	0	9	18	27	36	45	54	63	72	81	90	99	108	117	126	135

2



Chapter Lessons

Lesson 1 Creating Halves With Non-routine Ways

Outcomes:
- Coloring shapes to generate unconventional halves.
- Applying his/her understanding of area and fractions to solve story problems.

Lesson 2 Ordering Fractions Using The Number Line

Outcomes:
- Ordering fractions on a number line.
- Generating questions or problems to review Primary 3 Math.

Lesson 3 Applications on Numbers

Outcomes:
- Solving place value problems.
- Generating questions or problems to review Primary 3 Math.

Lesson 4 Elapsed Time

Outcomes:
- Solving elapsed-time problems.
- Generating questions or problems to review Primary 3 Math.

Lesson 5 Applications on Data Representations

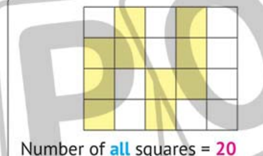
Outcomes:
- Collecting and recording data in a table.
- Using collected data to make a bar graph.
- Analyzing graphs to answer questions about the data.
- Generating questions or problems to review Primary 3 Math.

Key Vocabulary

- Numerator
- Number line
- Equivalence
- Unconventional
- Centimeters
- Elapsed
- Value
- Denominator
- Bar graph
- Line plot
- Key
- Data

Lesson 1 Creating Halves With Non-routine Ways

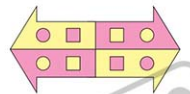
تكوين أنصاف غير تقليدية



Number of all squares = 20
Number of colored squares = 10
Number of uncolored squares = 10

Number of all parts = 12
Number of colored parts = 6
Number of uncolored parts = 6

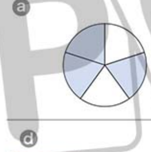
The area of the colored parts
= The area of the uncolored parts

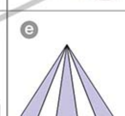


The fraction that represents the colored parts in the previous shapes is $\frac{1}{2}$.

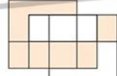
Because the number of colored parts equals the number of uncolored parts.

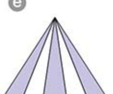
1 **Tick (✓) the shape(s) that represent(s) $\frac{1}{2}$:**

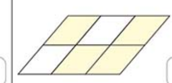
a  ☐

b  ☐

c  ☐

d  ☐

e  ☐

f  ☐

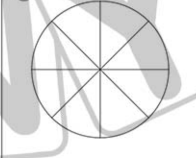


2 Shade **half** of each shape below, and then write the equivalent fraction to $\frac{1}{2}$:

ⓐ

$\frac{1}{2} = \frac{\cdots}{\cdots}$

ⓑ



$\frac{1}{2} = \frac{\cdots}{\cdots}$

ⓒ

$\frac{1}{2} = \frac{\cdots}{\cdots}$

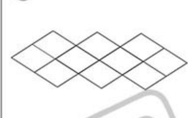
ⓓ

$\frac{1}{2} = \frac{\cdots}{\cdots}$

ⓔ

$\frac{1}{2} = \frac{\cdots}{\cdots}$

ⓕ



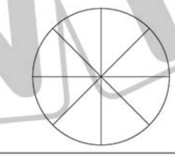
$\frac{1}{2} = \frac{\cdots}{\cdots}$

3 Shade **half** of each of the following shapes in **different ways**:

ⓐ

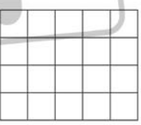


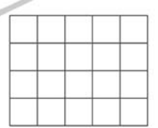


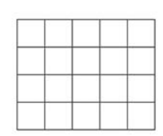


ⓑ

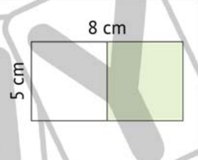








Ex. **Calculate the area of the colored part.**



The area of all the shape = 8 X 5

= 40 sq cm.

The area of the colored part = 40 ÷ 2

= 20 sq cm.

Or

8 cm
4 cm 4 cm
5 cm

Half of the length = 8 ÷ 2 = 4 cm.

Area = 5 X 4 = 20 sq cm.

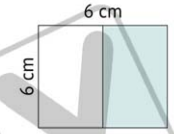
4 **Calculate the area of the colored part:**



ⓐ ....

....

....





ⓑ ....

....

....

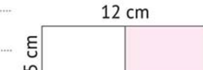




ⓒ ....

....

....



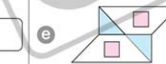


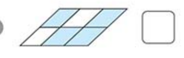
HOME ACTIVITIES

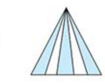
1 Tick (✓) the shape(s) that represent(s) $\frac{1}{2}$:





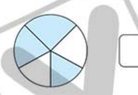










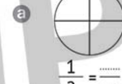
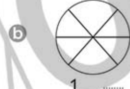
a ☐ b ☐ c ☐

d ☐ e ☐ f ☐

g ☐ h ☐ i ☐

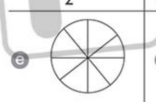
j ☐ k ☐ l ☐

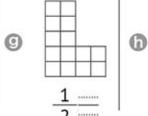
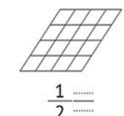
2 Shade half of each shape below, and then write the equivalent fraction to $\frac{1}{2}$:



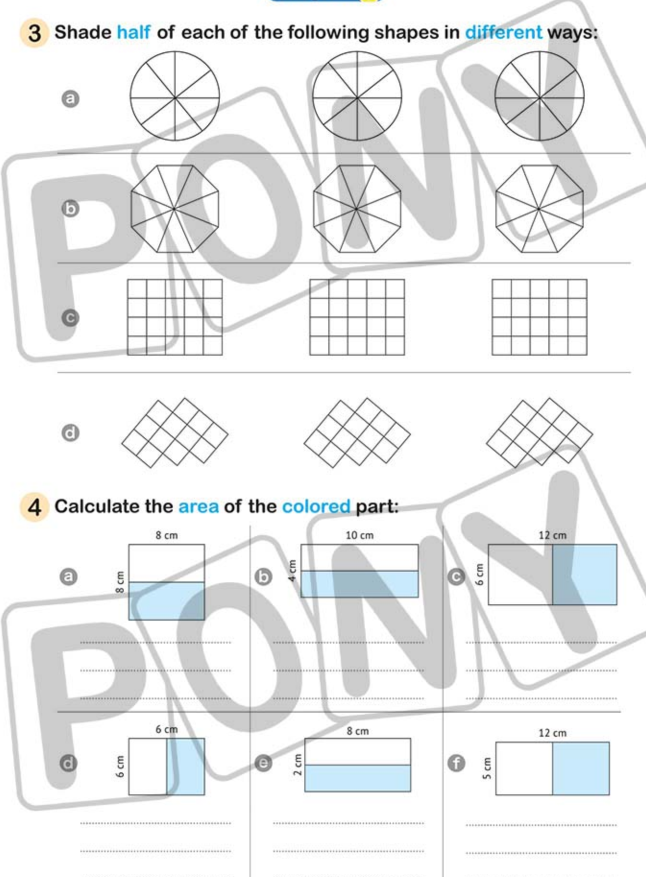
a $\frac{1}{2} = \frac{\cdots}{\cdots}$ b $\frac{1}{2} = \frac{\cdots}{\cdots}$ c $\frac{1}{2} = \frac{\cdots}{\cdots}$ d $\frac{1}{2} = \frac{\cdots}{\cdots}$



e $\frac{1}{2} \frac{\cdots}{\cdots}$ f $\frac{1}{2} \frac{\cdots}{\cdots}$ g $\frac{1}{2} \frac{\cdots}{\cdots}$ h $\frac{1}{2} \frac{\cdots}{\cdots}$

3 Shade half of each of the following shapes in different ways:



4 Calculate the area of the colored part:

a

b

c

d

e

f

5 Doha created a fenced garden in a field.

The garden is a rectangle measuring 6 meters by 8 meters.

She wants to grow fruits in $\frac{1}{2}$ of the garden.

What is the area of $\frac{1}{2}$ of her garden?

....

....

....

....

6 Jana needs to paint a wall equally with two different colors.

The wall is 8 meters by 4 meters.

How much of the wall should she paint with each color?

....

....

....

....

7 Ola is wrapping presents. She needs 32 square units of paper to wrap a present. How many presents can she wrap if her paper is 8 units long and 6 units wide?

....

....

....

....

Worksheet 

First: **Choose the correct answer:**

a) $5 + 5 + 5 + 5 + 5 + 5 =$ .... (5×6 or $5 + 6$ or 5×5)

b) $9 \times 2 = 10$ .... 8 ($\times$ or $+$ or $\div$)

c) $4 \times$ .... $= 24$ (8 or 7 or 6)

d) $\frac{1}{2} = \frac{3}{\ldots}$ (4 or 6 or 12)

e) .... $- \frac{2}{5} = \frac{3}{5}$ (1 or $\frac{1}{5}$ or $\frac{2}{5}$)

Second: **Complete the following:**

a) The side length of a square is 5 cm, then its **perimeter** is .... cm.

b) $7 \times 18 = (7 \times 10) + (7 \times$ .... $) =$ .... $+$ .... $=$ ....

c) The smallest 5-different-digit number is ....

d) If $4 \times 15 = 60$, then $60 \div$ .... $= 4$.

e) $4 \times 9 =$ .... + ... + ... + ... + ... + ...

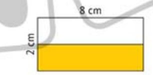
Third: **Answer the following:**

a) **Arrange the following fractions in an ascending order:**

$\frac{3}{5}$, $\frac{3}{8}$, $\frac{3}{4}$, $\frac{3}{7}$

.... , ... , ... , ...

b) **Calculate the area of the colored part.**



....

....

c) **A road is 3 meters long and 2 meters wide. Half of it has been paved, what is the area of the part that has been paved?**

....

....

Lesson 2 Ordering Fractions Using The Number Line

ترتيب الكسور على خط الأعداد



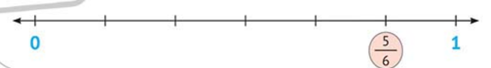
Ex.

Arrange the following fractions in an ascending order:

$\frac{2}{3}$, $\frac{5}{6}$, $\frac{1}{2}$, $\frac{3}{4}$ **Using the number line:**

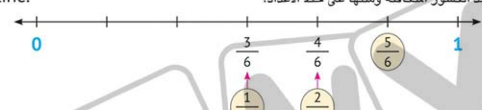
Step 1 Draw the number line and divide it according to the largest denominator.

ارسم خط الأعداد وقم بتقسيمه طبقًا لأكبر مقام.

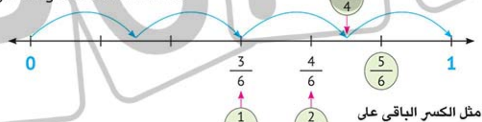


Step 2 Find equivalent fractions and represent them on the number line.

أوجد الكسور المتكافئة ومثلها على خط الأعداد.



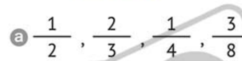
Step 3 Represent the remaining fraction on the number line.
Divide the number line by the denominator, ignoring the other marks.



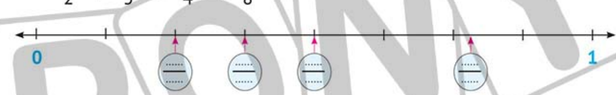
مثل الكسر الباقي على خط الأعداد:

Ascending order: $\frac{1}{2}$, $\frac{2}{3}$, $\frac{3}{4}$, $\frac{5}{6}$

1 Place the following fractions on the number line, then write them in an ascending order:

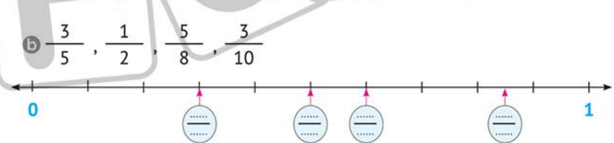


(a) $\frac{1}{2}$, $\frac{2}{3}$, $\frac{1}{4}$, $\frac{3}{8}$



Ascending order: .... , ... , ... , ...

(b) $\frac{3}{5}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{10}$



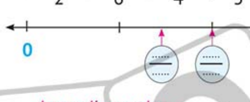
Ascending order: .... , ... , ... , ...

(c) $\frac{1}{2}$, $\frac{5}{6}$, $\frac{1}{4}$, $\frac{1}{3}$

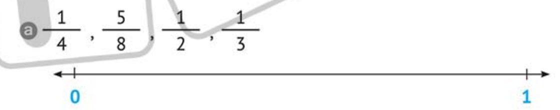
0 1

Ascending order: .... , ... , ... , ...

2 Use the following number lines to arrange the fractions in an ascending order:



(a) $\frac{1}{4}$, $\frac{5}{8}$, $\frac{1}{2}$, $\frac{1}{3}$



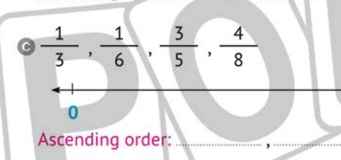
Ascending order: .... , ... , ... , ...

ⓑ $\frac{1}{4}$, $\frac{1}{5}$, $\frac{8}{10}$, $\frac{3}{6}$

0 ——————————————— 1

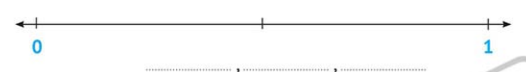
Ascending order: .... , ... , ... , ...

ⓒ $\frac{1}{3}$, $\frac{1}{6}$, $\frac{3}{5}$, $\frac{4}{8}$



Ascending order: .... , ... , ... , ...

3 **Place 3 different fractions less than $\frac{1}{2}$ on the number line and write them below:**



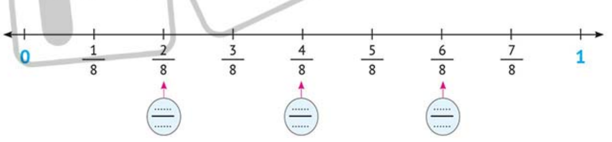
.... , ... , ...

4 **Place 3 different fractions more than $\frac{1}{3}$ on the number line and write them below:**



.... , ... , ...

5 **Look at the number line below. Then, find at least three other equivalent fractions that could be placed on the number line and write them:**





HOME ACTIVITIES

1 Place the following fractions on the number lines, then write them in an ascending order:

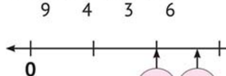


ⓐ $\frac{2}{3}$, $\frac{3}{4}$, $\frac{1}{6}$, $\frac{1}{2}$



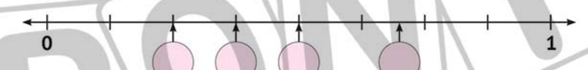
Ascending order: .... , ... , ... , ...

ⓑ $\frac{5}{9}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{3}{6}$



Ascending order: .... , ... , ... , ...

ⓒ $\frac{3}{8}$, $\frac{1}{4}$, $\frac{3}{6}$, $\frac{2}{3}$



Ascending order: .... , ... , ... , ...

ⓓ $\frac{3}{5}$, $\frac{7}{10}$, $\frac{1}{7}$, $\frac{4}{8}$

0 1



Ascending order: .... , ... , ... , ...

2 Arrange the following fractions in an ascending order:

(Use the following number lines.)

ⓐ $\frac{5}{8}$, $\frac{5}{6}$, $\frac{1}{2}$, $\frac{3}{4}$



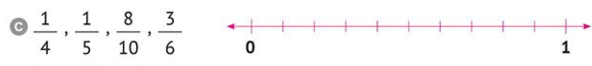
Ascending order: .... , ... , ... , ...

ⓑ $\frac{1}{6}$, $\frac{2}{3}$, $\frac{1}{4}$, $\frac{4}{8}$



Ascending order: .... , ... , ... , ...

ⓒ $\frac{1}{4}$, $\frac{1}{5}$, $\frac{8}{10}$, $\frac{3}{6}$



Ascending order: .... , ... , ... , ...

ⓓ $\frac{3}{5}$, $\frac{2}{3}$, $\frac{1}{9}$, $\frac{2}{6}$



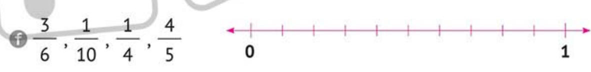
Ascending order: .... , ... , ... , ...

ⓔ $\frac{1}{3}$, $\frac{1}{6}$, $\frac{3}{5}$, $\frac{4}{8}$



Ascending order: .... , ... , ... , ...

ⓕ $\frac{3}{6}$, $\frac{1}{10}$, $\frac{1}{4}$, $\frac{4}{5}$



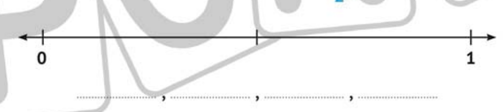
Ascending order: .... , ... , ... , ...

3 ⓐ Mark 3 different fractions less than $\frac{1}{2}$ on the number line:



.... , ... , ...

ⓑ Mark 4 different fractions more than $\frac{1}{2}$ on the number line:



.... , ... , ... , ...

ⓒ Mark 3 different fractions more than $\frac{1}{3}$ on the number line:



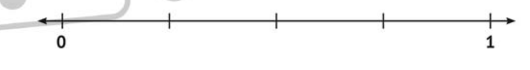
.... , ... , ...

ⓓ Mark 3 different fractions less than $\frac{2}{3}$ on the number line:



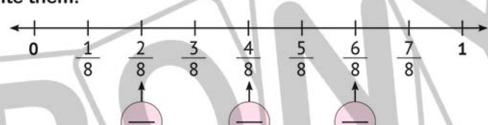
.... , ... , ...

ⓔ Mark 3 different fractions more than $\frac{1}{4}$ on the number line:

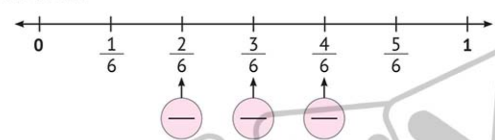


.... , ... , ...

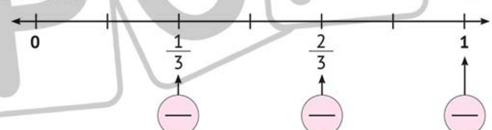
4 Look at the number line below. Then, find at least three other equivalent fractions that could be placed on the number line and write them:



5 Look at the number line below. Then, find at least three other equivalent fractions that could be placed on the number line and write them:



6 Look at the number line below. Then, find at least three other equivalent fractions that could be placed on the number line and write them:



Worksheet 2

First: **Choose the correct answer:**

a) The **value** of the digit 8 in 75,863 is .... (800 or 8,000 or 80,000)

b) 5 x 40 = ... x 10 (9 or 20 or 10)

c) 25 Hundreds ◯ 20,500 (< or = or >)

d) 3 x 4 = 4 x 3 ⟶ (.................... Property)
(Commutative or Associative or Distributive)

e) .... x (5 + 9) = (7 x 5) + (7 x 9) (9 or 5 or 7)

Second: **Complete the following:**

a) 24,637 = ... Thousands + ... Hundreds + ... Tens + ... Ones.

b) Area of the rectangle = ... x ....

c) 5 x (8 x ....) = (.......... x 8) x 3

d) $\frac{1}{4} + \frac{2}{4} + \frac{1}{4} =$ ....

e) $\frac{1}{8} = \frac{5}{\ldots}$

Third: **Answer the following:**

a) **Find the result:**

1) $4{,}216 + 1{,}734 =$ ....

2) $8{,}241 - 502 =$ ....

3) $9 \times 6 =$ ....

4) $32 \div 8 =$ ....

b) **Arrange the following fractions in an ascending order. Use the opposite number line:**

$\frac{1}{6}, \frac{2}{3}, \frac{1}{4}, \frac{4}{8}$

0 ———————————— 1

.........., ..., ..., ...

c) **Use the two numbers 5 and 8 to complete the fact family:**

1) .... x .... = ...

2) .... ÷ .... = ...

3) .... x .... = ...

4) .... ÷ .... = ...



Lesson 3

Applications on Numbers

تطبيقات على الأعداد

Remember

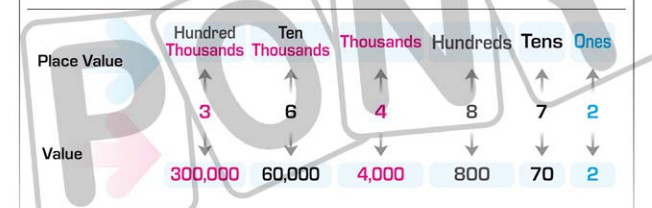
Thousands			Hundreds	Tens	Ones
Hundreds	Tens	Ones			
3	6	4	8	7	2

Standard Form → 364,872

Word Form → Three hundred, sixty-four thousand, eight hundred seventy-two

Short-Word Form → 364 **thousands**, 872

Expanded Form → 300,000 + 60,000 + 4,000 + 800 + 70 + 2
364 **Thousands** + 8 **Hundreds** + 7 **Tens** + 2 **Ones**



Place Value	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
Digit	3	6	4	8	7	2
Value	300,000	60,000	4,000	800	70	2

Ex. **The digit 5 in 35,792 is in the Thousands place and its value is 5,000.**

Ex.

- 56,258 comes right after 56,257.
- The number that comes right after 56,258 is 56,259.

Ex.

- 336,999 comes right before 337,000.
- The number that comes right before 336,999 is 336,998.

1 Complete the following:

a) Twenty-five thousand, six hundred eleven = ...
(Standard Form)

b) 700,618 **(Word Form):** ....

....

c) 700,000 + 70,000 + 5,000 + 800 + 50 + 3 = ...

d) 98 Thousands + 6 Ones + 5 Tens + 7 Hundreds = ...

e) 70 + 0 + 0 + 4 = ...

f) 7,856 = ... + ... + ... + ...

g) 552,159 = ... Tens + ... Thousands + ... Ones + ... Hundreds.

h) The number that comes **right after** 36,299 is ....

i) 700,250 comes **right after** ....

j) .... comes **right after** 899,999.

k) The number that comes **right before** 75,000 is ....

l) 3,156 comes **right before** ....

m .... comes **right before** 15,200.

n The **place value** of the digit 5 in 224,569 is ....

o The **place value** of the digit 7 in 789,895 is ....

p The **value** of the digit 7 in 79,159 is ....

q The **value** of the digit 2 in 8,128 is ....

r The **largest** 5-digit number is ....

s The **smallest** 6-digit number is ....

t The **largest** and the **smallest** numbers formed from the digits 7, 2, 0, 6, and 3 are .... and ....

2 Complete the following table:

	Number	Value of the Encircled Digit	Place Value of the Encircled Digit
a	(4)55,369	....	....
b	3(6)2,512	....	....
c	28(0),239	....	....
d	696,2(7)4	....	....
e	51,78(0)	....	....
f	39,(9)24	....	....

3 **Complete using the following sets of digits to form numbers:**

ⓐ 3, 5, 0, 4, 7

The **largest** number: ....

The **smallest** number: ....

ⓑ 8, 5, 4

The **largest** 6-digit number: ....

The **smallest** 6-digit number: ....

4 **Compare using (<, =, or >):**

ⓐ 255,458 ☐ 667,102

ⓑ 155,258 ☐ 155,528

ⓒ 50,502 ☐ 50,205

ⓓ 45,000 + 45 ☐ 45,450

ⓔ 20 Hundreds ☐ 2,000

ⓕ 3 + 500 + 2,000 ☐ 3,520

ⓖ 45 Thousands + 5 Hundreds + 31 Tens ☐ 45,810

ⓗ The smallest 5-different-digit number ☐ 12,345

ⓘ Ninety thousand and nine ☐ 900,009



HOME ACTIVITIES

1 **Choose the correct answer:**

ⓐ Seven hundred thousand and seventy = ...

(700,070 or 700,017 or 770,000)

ⓑ 5 + 20 + 400 + 7,000 = ... (5,247 or 70,425 or 7,425)

ⓒ 70,010 comes just after .... (79,999 or 70,099 or 70,009)

ⓓ .... comes just before 2,000. (1,999 or 2,001 or 1,099)

ⓔ 20 Thousands + 75 Tens = ... (2,075 or 20,075 or 20,750)

ⓕ 60 Hundreds = ... (60,000 or 6,000 or 600,000)

ⓖ 8,000 Tens = ... Hundreds. (800 or 8,000 or 80,000)

ⓗ 300,000 = ... Hundreds. (30 or 300 or 3,000)

ⓘ The largest 5-different-digit number is ....

(98,765 or 99,999 or 10,234)

ⓙ The smallest 6-different-digit number is ....

(100,000 or 123,456 or 102,345)

ⓚ The largest 5-same-digit number is ....

(99,999 or 98,756 or 9,999)

ⓛ The smallest 4-same-digit number is ....

(1,000 or 11,111 or 1,111)

ⓜ The **value** of the digit 3 in 53,889 is ....

(3,000 or 300 or 30)

ⓝ The **value** of the digit 8 in 877,624 is ....

(800,000 or 8,000 or 800)

ⓞ The **place value** of the digit 9 in 9,247 is the ....

(Hundreds or Thousands or Ten Thousands)

2 Complete the following:

a) Two hundred five thousand, six hundred eleven = ...

(Standard Form)

b) 700,608 **(Word Form)**: ....

c) 700,000 + 70,000 + 5,000 + 800 + 50 + 3 = ...

d) 998 Thousands + 6 Ones + 5 Tens + 7 Hundreds = ...

e) 70 + 0 + 0 + 4 = ...

f) 77,256 = ... + ... + ... + ...

g) 552,159 = ... Tens + ... Thousands + ... Ones + ... Hundreds.

h) The number that comes just after 362,999 is ....

i) 70,250 comes just after ....

j) .... comes just after 99,999.

k) The number that comes just before 700,000 is ....

l) 31,560 comes just before ....

m) .... comes just before 105,200.

n) The **place value** of the digit 5 in 254,269 is the ....

o) The **value** of the digit 7 in 79,159 is ....

p) The largest 6-digit number is ....

q) The smallest 6-digit number is ....

r) The largest 5-digit number is ....

s) The smallest 5-digit number is ....

t) The largest and smallest numbers formed from the digits 7, 2, 0, 6, and 3 are .... and ....

3 **Complete the following table:**

	Number	Value of the Encircled Digit	Place Value of the Encircled Digit
a	(4)55,369	....	....
b	3(6),512	....	....
c	28(0),239	....	....
d	696,2(7)4	....	....
e	51,78(0)	....	....

4 **Compare using (<, =, or >):**

a) 345,123 ◯ 600,201

b) 788,250 ◯ 788,520

c) 441,002 ◯ 441,020

d) 99,999 ◯ 100,010

e) 5,628 ◯ 5,268

f) 39,020 ◯ 39,200

g) 5 Tens + 7 Thousands + 4 Hundreds ◯ 7,405

h) Twenty thousand twenty ◯ 2,020

i) 500,000 + 50,000 + 500 + 5 ◯ 555,005

j) 3,600 + 36 ◯ 360,036

k) An hour and 25 minutes ◯ 95 minutes

l) 2 hours and 25 minutes ◯ 150 minutes

5 Arrange each group of the following numbers in ascending and descending orders:

a 32,023 , 98,123 , 75,023 , 54,987 , 20,368

Ascending order:

.... , ... , ... , ... , ...

Descending order:

.... , ... , ... , ... , ...

b 500,368 , 500,638 , 500,863 , 500,386 , 500,683

Ascending order:

.... , ... , ... , ... , ...

Descending order:

.... , ... , ... , ... , ...

6 What is the number that has 5 Thousands, 7 Hundreds, 6 Tens, and 4 Ones?

....

7 Amir's family is saving to buy a new TV. The TV costs 5,940 LE on sale. They have saved 4,120 LE so far.
How much more money do they need to buy the TV?

....

....

8 The library can hold 2,475 books, but 525 books are borrowed and 137 books are missing.
How many books are there in the library right now?

....

....

Worksheet 3

First: **Choose the correct answer:**

a The smallest 6-different-digit number is ....
(100,000 or 123,456 or 102,345)

b Three hundred three thousand, three hundred and three = ...
(303,303 or 300,033 or 330,303)

c The **value** of the digit 0 in 350,567 is ....
(10,000 or 1,000 or 0)

d The number that comes just after 209,999 is ....
(300,000 or 209,998 or 210,000)

e 25 Thousands + 6 Ones + 7 Hundreds + 9 Tens = ...
(25,679 or 25,796 or 25,769)

Second: **Complete the following:**

a The greatest 6-digit number that can be formed from the digits 3, 5, and 7 is ....

b 250,250 = 250 + ...

c The **place value** of the digit 0 in 405,612 is the ....

d 8 Tens + 502 Thousands + 7 Ones + 2 Hundreds = ...

e (8 X ....) + (8 X ....) = 32 + 56 = ...

Third: **Answer the following:**

a **Find the result:**

1 456 + 643 = ...

2 4,020 – 129 = ...

b **Arrange the following numbers in an ascending order:**

10,000 , 999 , 50,000 , 200 , 6,000

• .... , ... , ... , ... , ...

c **Mona has 545 LE and Nada has 253 LE.**

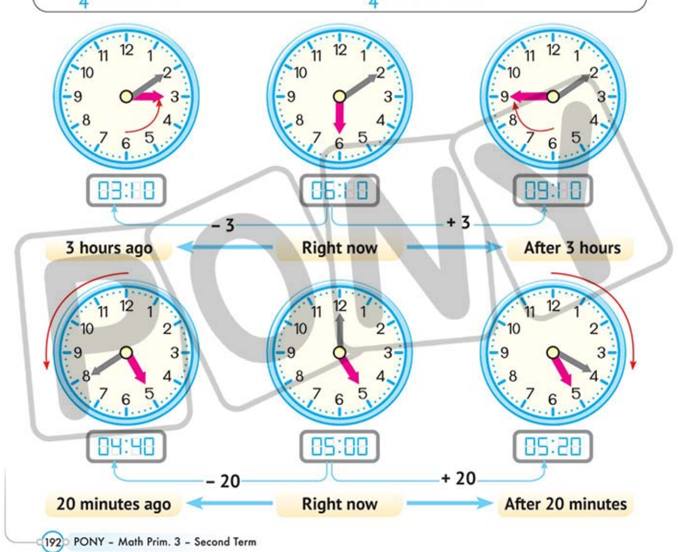
How much money do they have altogether?

They have = ... + ... = ... LE.

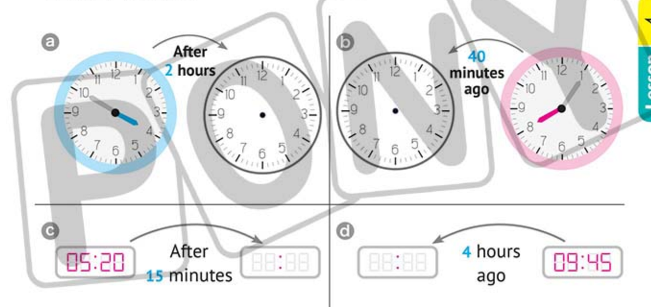
Lesson 4 Elapsed Time الوقت المنقضي

Remember

1 day = 24 hours	**1 hour = 60 minutes**
$\frac{1}{2}$ day = 12 hours	$\frac{1}{2}$ hour = 30 minutes
$\frac{1}{3}$ day = 8 hours	$\frac{1}{3}$ hour = 20 minutes
$\frac{1}{4}$ day = 6 hours	$\frac{1}{4}$ hour = 15 minutes



1 **Draw the analog clock hands or write the time on the digital clock to show the time:**



c 05:20 After 15 minutes 88:88

d 88:88 4 hours ago 09:45

2 **Calculate the elapsed time between each two clocks:**

a

Elapsed time: ....
....

b

Elapsed time: ....
....

c 05:15 08:15

Elapsed time: ....
....

d 08:43 09:03

Elapsed time: ....
....

3 Gamal is planning out his day on a piece of paper.
He plans to wake up at 7:15 a.m. and leave for school at 8:30 a.m.
It takes him 15 minutes to walk to and from school.
He will spend six hours at school and leave for home immediately after school.
What will the analog clocks in his house look like when he wakes up, leaves for school, and arrives back home?


Wakes up


Leaves for school


Arrives back home

4 Amir went to the museum with his family. They arrived at 10:00 a.m. and they left the museum to go back home at 3:30 p.m. How long were they at the museum?


Arrival time


Time to leave

Elapsed time: ....

5 How much time has elapsed?

a) 6:30 a.m. → 7:00 a.m. ....

b) 4:30 p.m. → 9:00 p.m. ....

c) 11:15 a.m. → 5:30 p.m. ....



HOME ACTIVITIES

1 Draw the analog clock **hands** or write the **time** on the digital clock to show the time:

a



After 40 minutes

b

05:00



After 50 minutes

c



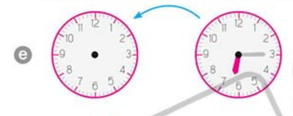
After 6 hours

d

10:40

20 minutes ago

e



30 minutes ago

f

06:25

5 hours ago

g





3 hours ago

h

01:06

After 6 hours

i



After 2 hours

j

11:15

After 45 minutes

2 Calculate the elapsed time between each two clocks:

ⓐ  

Elapsed time: ....

ⓑ  

Elapsed time: ....

ⓒ  

Elapsed time: ....

ⓓ  

Elapsed time: ....

ⓔ 

11:05

Elapsed time: ....

ⓕ 05:08 09:08

Elapsed time: ....

ⓖ 

03:48

Elapsed time: ....

ⓗ 10:03 10:40

Elapsed time: ....

ⓘ 

03:20

Elapsed time: ....

ⓙ 04:45 05:00

Elapsed time: ....

3 Ziad wakes up at 7:00 a.m. He has to leave at 8:00 a.m. for school. It takes him 20 minutes to eat breakfast, 5 minutes to brush his teeth and hair, and 10 minutes to pack his bag.
If he wants to watch a 30-minute cartoon, would he have enough time before he leaves for school? Show your answer.

....

....

4 Ameen arrives at school at 7:30 a.m. He leaves school at 3:15 p.m. How long is Ameen at school for?





Elapsed time: ....

Arrival time   Time to leave

5 Heba spent 3 hours at the dancing practice. She finished at 6:10 p.m. What time did she start?





Started   Finished

6 Kamal's family took a road trip. They left at 7:30 a.m. and drove until 12:15 p.m., when they stopped for lunch. How many hours were they on the road?





Elapsed time: ....

7 How much time has elapsed?

ⓐ 6 : 30 a.m. ⟶ 7 : 00 a.m. ....

ⓑ 3 : 00 a.m. ⟶ 4 : 30 a.m. ....

ⓒ 5 : 05 p.m. ⟶ 10 : 05 p.m. ....

ⓓ 4 : 10 p.m. ⟶ 9 : 00 p.m. ....

ⓔ 10 : 10 a.m. ⟶ 7 : 15 p.m. ....

ⓕ 11 : 15 a.m. ⟶ 5 : 30 p.m. ....

---

8 Gaber comes home from school and starts his homework. It takes him 22 minutes to do his math, 20 minutes to read, and he has a science experiment that takes 18 minutes. Hala has the same homework. She takes 15 minutes to do her math, reads for 20 minutes, and then the science experiment only takes her 11 minutes.

ⓐ How long does it take Gaber to finish all his homework?

....

ⓑ How long does it take Hala to finish all her homework?

....

ⓒ How much longer does it take Gaber to do his homework?

....

---

9 Kamal had football practice after school. He left school at 3:30 p.m.
He walked for 15 minutes to the field.
He played for an hour and a half, and then walked for 20 minutes to go home. What time did he get home?

....





Worksheet 

First: **Choose the correct answer:**

a) The smallest 5-different-digit number is ....
(98,765 or 12,345 or 10,234)

b) 100 Thousands = ... Hundreds. (10 or 100 or 1,000)

c) 200 + 0 + 0 + 5 = ... (200,005 or 205 or 25)

d) 4 + 4 + 4 = 2 X .... (3 or 4 or 6)

e) The **value** of the digit 9 in 49,123 is ....
(9 or 900 or 9,000)

Second: **Complete the following:**

a) 8 X 50 = ...

b) The elapsed time from 7:05 to 9:05 is ....

c) .... comes just before 70,100.

d) If 4 X 15 = 60, then 60 ÷ .... = 4.

e) $\frac{2}{3} = \frac{\cdots}{6} = \frac{\cdots}{9}$

Third: **Answer the following:**

a) **Look at the analog clocks. Write the time below, and then determine how much time has elapsed between the two clocks.**







Elapsed time: ....

b) **Arrange the following numbers in an ascending order:**

42,159 , 42,951 , 42,519 , 52,915 , 42,195

• .... , ... , ... , ... , ...



Applications on Data Representations

تطبيقات على التمثيلات البيانية

Ex.

The following numbers are the marks from a test taken by a class of 24 students:

16 , 14 , 17 , 11 , 14 , 11 , 17 , 17 , 18 , 15 , 13 , 16 ,
12 , 15 , 18 , 18 , 11 , 16 , 15 , 14 , 17 , 15 , 13 , 17

Represent the data by a line plot graph and a bar graph.

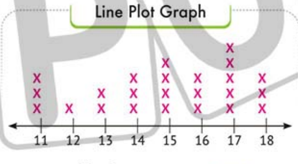
To represent these marks graphically, a frequency table is created. We indicate the lowest and largest marks and write the number of repetitions of these marks in a table, as shown:

The lowest value = 11 The largest value = 18

Marks	11	12	13	14	15	16	17	18
Tallies	///	/	//	///	////	///	~~////~~	///
Frequency of Number of Students	3	1	2	3	4	3	5	3

Then the marks are represented in one of two ways

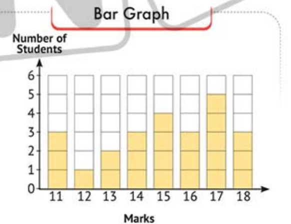
Line Plot Graph



Marks



Bar Graph



1 You rolled the dice 30 times and scored the following:

1	6	4	2	5	3	2	1	5	5	2	5	3	2	1
3	6	6	6	1	1	4	2	3	5	6	1	1	4	2

ⓐ **Complete the following table:**

Numbers	1	2	3	4	5	6
Tallies	....	....	....	....	....	....
Frequency	....	....	....	....	....	....

ⓑ **Complete the following line plot graph:**

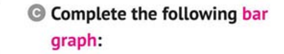
Title: ....

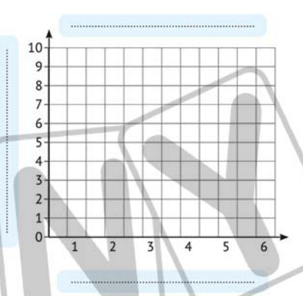


....

x = ...

ⓒ **Complete the following bar graph:**





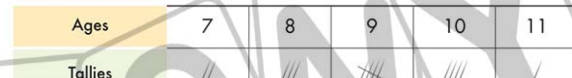
ⓓ **Answer the following questions:**

1. Which number did you score the most? ....
2. Which number did you score the least? ....
3. How many times did you score an even number? ....
4. What is the difference between the total number of even number scores and the total number of odd number scores?

....

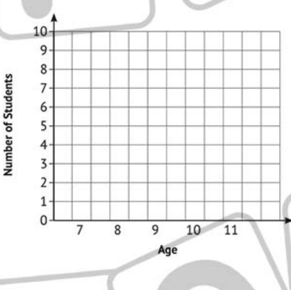
2 The following table represents the ages of students in a class:

ⓐ **Complete the following table:**



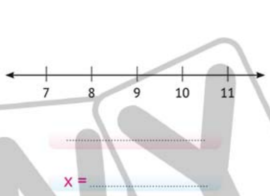
Ages	7	8	9	10	11
Tallies	//	///	𝍸	////	/
Number of Students	....	....	....	....	....

ⓑ **Complete the following bar graph:**



ⓒ **Complete the following line plot graph:**

Title: ....



ⓓ **Answer the following questions:**

1. How many children in the class are 11 years old?

   .... children

2. Which age is the most repeated? .... years old

3. How many children do their ages represent an even number?

   .... children



HOME ACTIVITIES

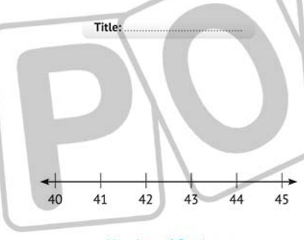
1 The following data shows the number of students in each of the school's 20 classes:

45 , 40 , 41 , 45 , 40 , 41 , 41 , 43 , 45 , 45
44 , 45 , 43 , 43 , 40 , 43 , 45 , 41 , 44 , 41

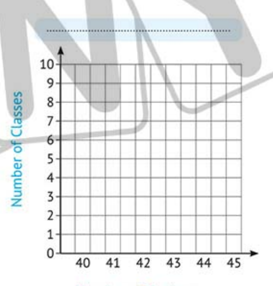
a Complete the following table:

Number of Students	40	41	42	43	44	45
Tallies	....	....	....	....	....	....
Number of Classes (Frequency)	....	....	....	....	....	....

b Complete the following line plot graph:



c Complete the following bar graph:

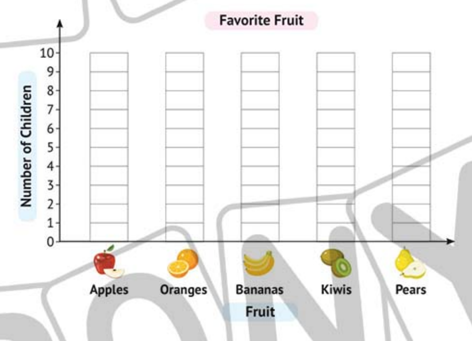


2 The following table shows the favorite fruits for 25 children:

a Complete the following table:

Favorite Fruit	Apples	Oranges	Bananas	Kiwis	Pears
Tallies	𝍸 |	||||	𝍸 ||	|||	𝍸
Number of Children	....	....	....	....	....

b Complete the following bar graph:



c Answer the following questions:

1. How many children like oranges? ....
2. How many more children like apples than pears? ....
3. How many children altogether like kiwis, apples, and oranges?

....

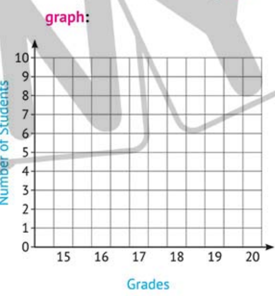
4. Which fruit is liked the most? ....
5. Which fruit is liked the least? ....

3 The following table shows the grades of a number of students in mathematics, represent the data on the bar graph:

ⓐ Complete the following table:

Grades	Tallies	Number of Students
15	𝍸 //	....
16	𝍸 /	....
17	𝍸	....
18	𝍸 ///	....
19	////	....
20	///	....

ⓑ Complete the following bar graph:



4 The following data shows the weights of 20 children in kilograms. Create a line plot graph using this data:

55 , 50 , 54 , 54 , 51 , 55 , 52 , 53 , 51 , 52

53 , 54 , 55 , 54 , 53 , 51 , 51 , 50 , 50 , 52

ⓐ Complete the following table:

Weight	Tallies	Frequency
50		....
51		....
52		....
53		....
54		....
55		....

ⓑ Complete the following line plot graph:

Title: ....



X = ...

5 You rolled the dice 20 times and scored the following:

1	4	2	5	3	5	2	2	2	1
3	6	6	1	1	3	5	6	4	2

a Complete the following table:

Numbers	1	2	3	4	5	6
Tallies						
Frequency	....	....	....	....	....	....

b Complete the following line plot graph:

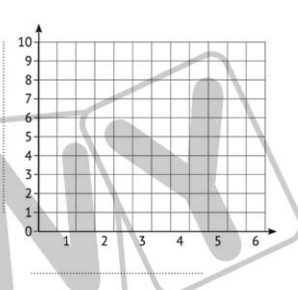
Title: ....

1 2 3 4 5 6

....

x = ...

c Complete the following bar graph:



....

d Answer the following questions:

1 Which number did you score the most? ....

2 Which number did you score the least? ....

3 How many times did you score an even number? ....

4 What is the difference between the total number of even number scores and the total number of odd number scores?

....

Worksheet 

First: **Choose the correct answer:**

a) $7 \times (4 + 5) =$ .... (7×20 or 7×9 or $7 \times 4 \times 5$)

b) $40,000 + 500 + 3 =$ .... (40,503 or 45,003 or 40,053)

c) $4 \times 8 = 30 +$ .... (32 or 8 or 2)

d) The smallest 6-different-digit number is ....
(100,000 or 102,345 or 123,456)

e) $\frac{2}{6}$ ◯ $\frac{5}{6}$ (< or = or >)

Second: **Complete the following:**

a) The **place value** of the digit 0 in 70,258 is the ....

b) $9 \times 50 =$ .... $\times 10$

c) The elapsed time from 5:15 to 6:00 is ....

d) $5 \times (4 \times$ .... $) = ($ .... $\times 4) \times 8$

e) $\frac{4}{8} = \frac{2}{\ldots}$

Third: **Answer the following:**

a) **Find the result:**

1. $8 \times 70 =$ ......
2. $45 \div 5 =$ ......
3. $\frac{2}{7} + \frac{4}{7} =$ ......
4. $\frac{4}{5} - \frac{2}{5} =$ ......

b) **Arrange the following fractions in an ascending order:**

$\frac{1}{2}$, $\frac{5}{6}$, $\frac{1}{6}$, $\frac{2}{3}$

Use the following number line:

0 ——————————————— 1

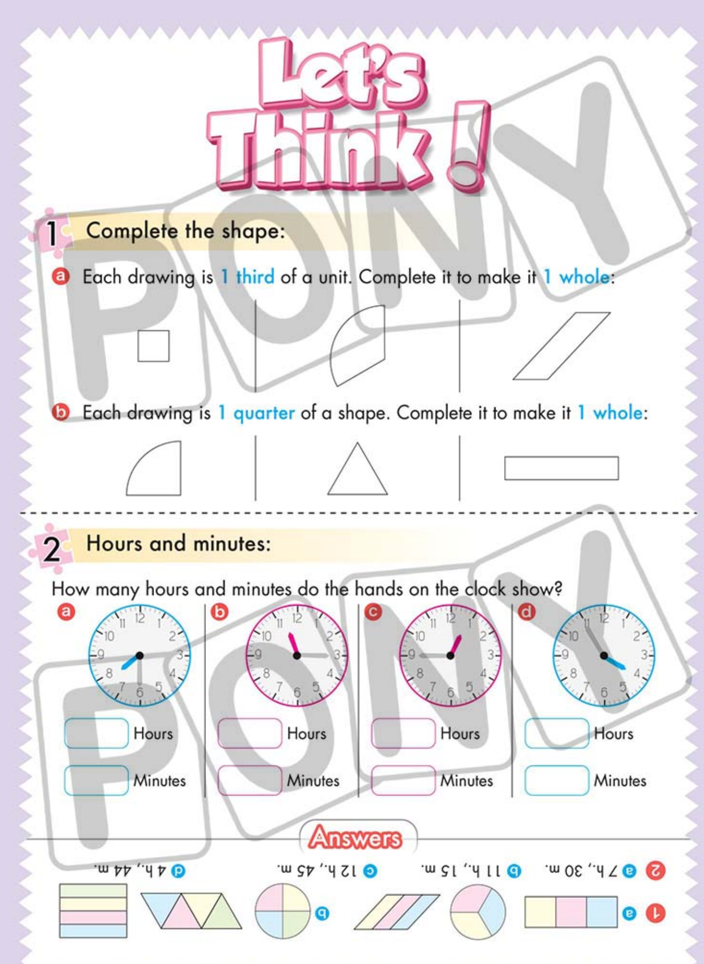
.... , ... , ... , ...

c) **Find the area and perimeter of the following rectangle.**

Area = ...

Perimeter = ...

8 cm
4 cm



Let's Think!
1 Complete the shape:
a Each drawing is 1 third of a unit. Complete it to make it 1 whole:
b Each drawing is 1 quarter of a shape. Complete it to make it 1 whole:
2 Hours and minutes:
How many hours and minutes do the hands on the clock show?
a
Hours
Minutes
b
Hours
Minutes
c
Hours
Minutes
d
Hours
Minutes
Answers
2 a 7 h., 30 m.
b 11 h., 15 m.
c 12 h., 45 m.
d 4 h., 44 m.
1 a
b
PONY

PONY

سلسلة كتب الأستاذ

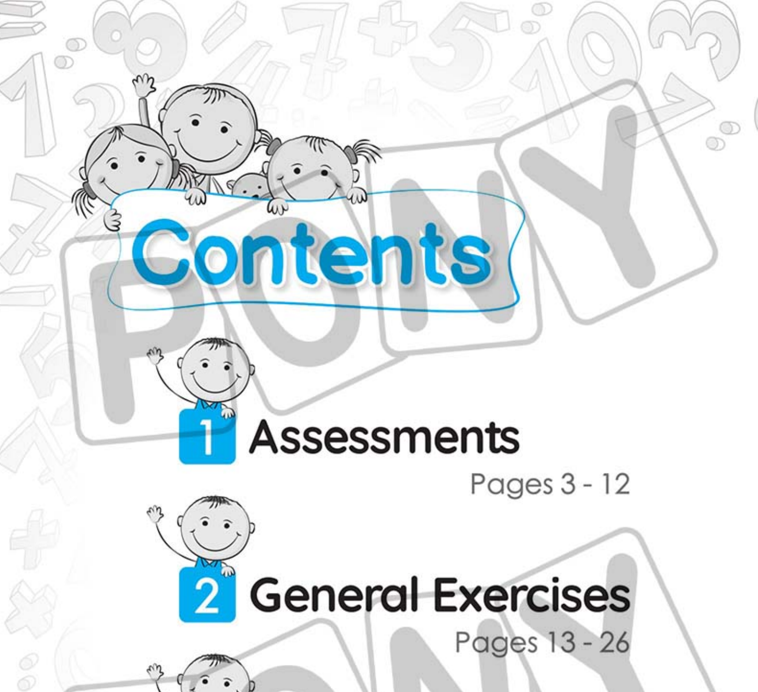
Math

By: Mohamed Nasreldin

Final Revision, Exams & Answers



Second Term



Contents

Assessment on Chapter 7

First: **Choose the correct answer:**

1. 5 + 5 + 5 + 5 = ... (5 x 5 or 5 x 4 or 5 + 4)
2. (3 x 5) + (3 x 3) = ... (3 x 35 or 3 x 15 or 3 x 8)
3. 8 x 30 = 24 x .... (10 or 30 or 3)
4. 72 ÷ .... = 9 (7 or 8 or 9)
5. If the perimeter of a rectangle is **24** cm and its width is **4** cm, then its length is .... cm. (6 or 20 or 8)

Second: **Complete the following:**

1. 2 x 5 x 8 = (2 x ....) x 8 = ... x 8 = ...
2. 7 x 13 = 7 x (3 + ...) = (7 x ....) + (7 x ....) = ... + ... = ...
3. Perimeter of the square = Side length x ....
4. Perimeter of the rectangle = (.......... + ...) x 2
5. 8 x (3 x ....) = (.......... x ....) x 6

Third: **Put (✓) or (✗):**

1. 8 x 6 x 4 = (8 x 3) + (3 x 4) (   )
2. 4 x 60 = 3 x 80 (   )
3. If the perimeter of a square is **8** cm, then its side length is **32** cm. (   )
4. 3 x 15 = (3 + 5) x (3 + 10) (   )
5. 45 ÷ 5 = 9 (   )

Fourth: **Match:**

1. (2 x 3) + (2 x 5)	a. 5 x 30
2. 5 x 3 x 10	b. 4 x 7
3. 4 x (5 + 2)	c. 12 x 10
4. 4 x (5 x 2)	d. 2 x 8
5. 3 x 40	e. 4 x 10

Fifth: Answer the following:

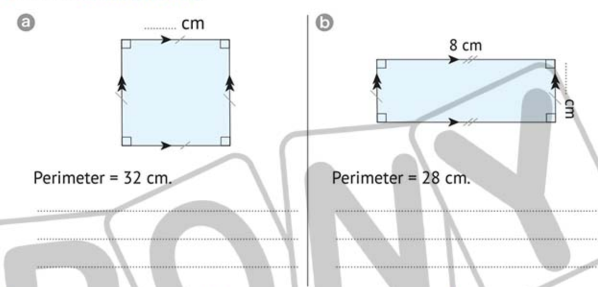
1 Estimate the **product** of the multiplication, then find the **actual product**:

	Problem	Estimate	Actual Product
a	6 x 7	…………	…………
b	9 x 12	…………	…………
c	2 x 3 x 4	…… X …… = ……	…… X …… = ……

2 Complete the **fact family** below using **4, 5, and 20**:



3 Find the **unknown side**:



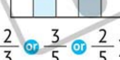
4 If the school library has **5** cupboards with each having **4** shelves and each shelf holding **6** books, how many books are there in the library?



Assessment on Chapter 8

First: Choose the correct answer:

1. Five-sevenths = ... ($\frac{5}{7}$ or $\frac{7}{5}$ or 5 X 7)
2. $\frac{1}{4}$ ☐ $\frac{1}{7}$ (< or = or >)
3. The fraction that represents the shaded parts in the opposite figure is .... ($\frac{2}{3}$ or $\frac{3}{5}$ or $\frac{2}{5}$)



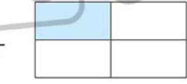
4. Half a lemon ☐ Half a watermelon (< or = or >)
5. The number of sixths in one whole is .... sixths. (1 or 5 or 6)

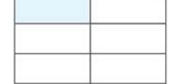
Second: Complete the following:

1. The fraction that represents the shaded parts in the opposite figure is ....
2. $\frac{1}{3}$ of 12 is ....
3. There are .... thirds in one whole.
4. $\frac{1}{4}$ an hour is .... minutes.
5. $1 = \frac{\dots}{8}$

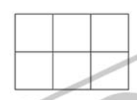
Third: Answer the following:

1. **Write the fractions and compare using (<, =, or >):**

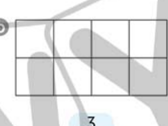
ⓐ  $\frac{\dots}{\dots}$ ☐ $\frac{\dots}{\dots}$ 

ⓑ  $\frac{\dots}{\dots}$ ☐ $\frac{\dots}{\dots}$ 

2 **Color according to the written fraction:**

$\frac{2}{3}$

$\frac{3}{4}$

3 Marwan has a long loaf of bread that he wants to share with **three** of his friends. Use the following **fraction model** to express this.

4 **Arrange the following fractions in an ascending order:**

$\frac{1}{5}$, $\frac{1}{3}$, $\frac{1}{8}$, $\frac{1}{4}$

.... , ... , ... , ...

Assessment on Chapter 9

First: **Choose the correct answer:**

1. $\frac{3}{4}$ ☐ $\frac{1}{4}$ (< or = or >)

2. $\frac{3}{5} + \text{.......} = \frac{4}{5}$ ($\frac{7}{5}$ or $\frac{1}{5}$ or $\frac{2}{5}$)

3. $\frac{4}{8} > \text{.......}$ ($\frac{5}{8}$ or $\frac{4}{5}$ or $\frac{3}{8}$)

4. $\frac{4}{7} - \text{.......} = \frac{1}{7}$ ($\frac{3}{7}$ or $\frac{4}{7}$ or $\frac{3}{4}$)

5. The fraction represented on the following number line is ....

0 1

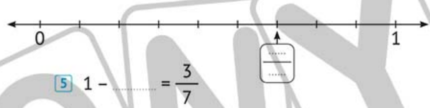
($\frac{1}{2}$ or $\frac{1}{4}$ or $\frac{1}{8}$)

Second: **Complete the following:**

1. $\frac{3}{8} + \frac{4}{8} = \frac{\text{.......}}{\text{.......}}$

2. $\frac{5}{9} - \frac{3}{9} = \frac{\text{.......}}{\text{.......}}$

3. The fraction represented on the following number line is ....



4. $\text{.......} + \frac{3}{5} = 1$

5. $1 - \text{.......} = \frac{3}{7}$

Third: **Answer the following:**

1. Arrange the following numbers in a **descending** order:

$\frac{2}{7}$, 1 , $\frac{2}{5}$, $\frac{2}{3}$

.... , ... , ... , ...

2. Omar walked for $\frac{4}{10}$ km, and then walked for $\frac{3}{10}$ km.

What distance did Omar walk?

....

Assessment on Chapter 10

First: Complete the following:

1. $\frac{3}{4} = \frac{9}{\dots}$

2. $\frac{24}{36} = \frac{4}{\dots}$

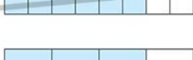
3. $\frac{1}{2} = \frac{\dots}{4} = \frac{4}{\dots}$

4. If 3 X 5 = 15, then 15 ÷ .... = 5.

5. 64 ÷ .... = 8

Second: Complete using the models or number lines shown:

1.

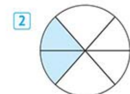


$\frac{\dots}{\dots}$

$\frac{\dots}{\dots}$

$\frac{\dots}{\dots} = \frac{3}{4}$

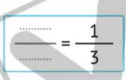
2.



$\frac{\dots}{\dots}$

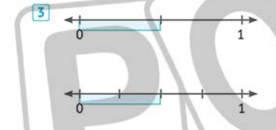


$\frac{\dots}{\dots}$



$\frac{\dots}{\dots} = \frac{1}{3}$

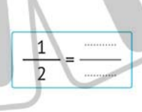
3.



$\frac{\dots}{\dots}$

$\frac{\dots}{\dots}$





$\frac{1}{2} = \frac{\dots}{\dots}$

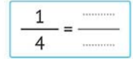
4.



$\frac{\dots}{\dots}$

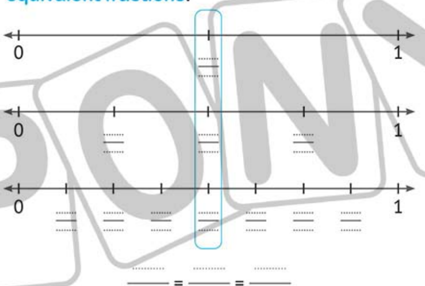


$\frac{1}{4} = \frac{\dots}{\dots}$



$\frac{\dots}{\dots}$

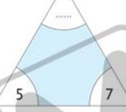
Third: Complete the **number lines** shown, then write the **equivalent fractions**:



$\frac{......}{......} = \frac{......}{......} = \frac{......}{......}$

Fourth: Complete the **fact family** below:

1. .... X .... = ...
2. .... X .... = ...
3. .... ÷ .... = ...
4. .... ÷ .... = ...



Fifth: Answer the following:

1. Ahmed divided **28** pounds among his sons, and each son took **7** pounds. How many children does Ahmed have?

....

....

2. Hossam bought a piece of chocolate divided into 10 equal parts. Hossam ate $\frac{3}{5}$ of them. Complete the following:

   a. The number of parts that Hossam ate is .... parts.

   b. The fraction that represents what Hossam ate is $\frac{......}{10}$.

Assessment on Chapter 11

First: **Choose the correct answer:**

1. 4 X 3 = ... (4 + 3 or 3 + 3 + 3 or 4 + 4 + 4)
2. 8 X 30 = 4 X .... (10 or 60 or 6)
3. If the perimeter of a square is 36 cm, then its area is .... cm^2. (36 or 24 or 81)
4. If the length of a rectangle is 8 cm and its width is 4 cm, then the area of the rectangle is .... cm^2. (32 or 24 or 12)
5. 6 X 3 = 3 X .... (18 or 3 or 6)

Second: **Complete the following:**

1. 8 + 8 + 8 + 8 = 4 X ....
2. 48 ÷ .... = 8
3. Area of the rectangle = ... X ....
4. 8 X 50 = 8 X 5 X .... = ... X 10 = ...
5. 3 X (4 + ...) = (............ X 4) + (............ X 5)

Third: **Use 3 and 4 to complete the following fact family:**

1. .... X .... = ...
2. .... X .... = ...
3. .... ÷ .... = ...
4. .... ÷ .... = ...

Fourth: **Find the perimeter and area of each of the following shapes:**

3 cm

1. Perimeter = ...

   Area = ...

7 cm

6 cm

2. Perimeter = ...

   Area = ...

Fifth: Answer the following:

1 Ahmed divided 18 pounds equally among his three sons.
How much would each son take?
Write an equation with an unknown to represent the story problem, then solve it. Use the fact-family triangle.



Equation with an unknown: ....

Answer: ....

2 The area of a rectangle is 24 sq cm, and its width is 3 cm.
Find the length of the rectangle and its perimeter.

....

....

Assessment on Chapter 12

First: **Choose the correct answer:**

1. The smallest 6-different-digit number is ....
   (100,000 or 102,345 or 123,456)
2. The value of the digit 4 in 240,356 is .... (40 or 4,000 or 40,000)
3. 44,003 ☐ 40,433 (< or = or >)
4. The elapsed time from 1:30 p.m. to 2:15 p.m. is .... minutes. (30 or 15 or 45)

Second: **Complete the following:**

1. The place value of the digit 6 in 187,632 is ....
2. 5 + 60 + 20,000 + 800,000 = ...
3. 8,000 Hundreds = ... Thousands.
4. If the time now is 10:45, then the time 3 hours ago was ....

Third: **Place the following fractions on the number line, then write them in an ascending order:**

$\frac{3}{4}$, $\frac{1}{6}$, $\frac{1}{3}$, $\frac{1}{2}$

0 ———————————————— 1

.... , ... , ... , ...

Fourth: **Find the perimeter and area of the following shape:**

Perimeter = ... cm.

Area = ... sq cm.

9 cm
4 cm

Fifth: **Walaa spends 3 hours studying. If she starts studying at 7:30 p.m., when does she finish studying?**



General Exercises

Multiplication and Division

First: **Choose the correct answer:**

a 6 + 6 + 6 + 6 + 6 = ... (6 X 6 or 6 + 5 or 6 X 5)

b 4 + 4 + 4 + 4 + 4 = ... (4 X 4 or 2 X 10 or 4 + 5)

c 8 X 2 = ... (4 X 4 or 8 + 2 or 4 X 6)

d 9 X 4 = 30 + ... (6 or 36 or 9)

e 42 ÷ 6 = ... (8 or 7 or 6)

f 8 X 6 = 6 X .... (6 or 7 or 8)

g 5 X .... = 4 X 10 (8 or 7 or 6)

h .... = 4 X 6 (16 or 24 or 32)

i 7 X 30 = ... X 10 (21 or 10 or 7)

j 6 X (.................... X 7) = (6 X 5) X 7 (6 or 5 or 7)

k 8 X 15 = (8 X 10) + (8 X ....) (5 or 6 or 7)

l 9 X .... = (9 X 5) + (9 X 6) (30 or 11 or 9)

m If 7 X 12 = 84, then .... ÷ 12 = 7. (7 or 12 or 84)

Second: **Complete the following:**

a 9 X 3 = ...

b 8 X .... = 32

c .... X 6 = 42

d 56 ÷ 7 = ...

e .... ÷ 3 = 5

f 36 ÷ .... = 9

g 6 X 3 = ... + ... + ...

h 8 X 2 = ... + ... + ... + ...

i 7 X (5 X ....) = (............ X 5) X 9

j 6 X 15 = (............ X 3) X 5

k 4 X (10 + 7) = (4 X ....) + (4 X 7) = ... + ... = ...

l .... X (7 + ...) = 9 X 13

m If 8 X 9 = 72, then 72 ÷ 8 = ..., and 72 ÷ 9 = ...

Third: Answer the following:

1 Use the Associative Property to find:

a 5 X 2 X 8 = (............ X ....) X .... = ... X .... = ...

b 8 X 9 X 1 = ... X (............ X ....) = ... X .... = ...

c 4 X 5 X 10 = ...

d 6 X 8 X 10 = ...

2 Use the Distributive Property to find:

a 8 X 9 = (8 X 6) + (8 X ....) = ... + ... = ...

b 6 X 15 = (............ X 10) + (............ X ....) = ... + ... = ...

c .... X .... = (7 X 7) + (7 X 6) = ... + ... = ...

d .... X .... = (5 X ....) + (5 X ....) = 30 + 40 = ...

3 **Use 3, 6, and 18 to complete the fact family below:**

a .... X .... = ...

b .... X .... = ...

c .... ÷ .... = ...

d .... ÷ .... = ...

4 **Ahmed has three boxes; each box has 5 bags and each bag has 4 oranges. How many oranges does Ahmed have?**

....

....

....

5 **Ahmed planted two gardens. The first contains 3 rows; in each row, there are 8 orange trees, and the second has 3 rows; in each row, there are 5 orange trees. How many orange trees did Ahmed plant?**

....

....

....

6 **Marwa has 24 sweets that she wants to distribute among three children equally. How many sweets will each child have?**

....

....

....

Perimeter and Area

First: **Choose the correct answer:**

a The **perimeter** of a square with a side length of 6 cm is .... cm.
(36 or 12 or 24)

b The **perimeter** of a rectangle with a length of 8 cm and a width of 3 cm is .... cm. (24 or 22 or 11)

c If the side length of a square is 9 cm, then its **area** is .... sq cm.
(81 or 18 or 36)

d If the dimensions of a rectangle are 5 cm and 3 cm, then the **area** of the rectangle is .... sq cm. (15 or 16 or 8)

e If the area of a square is 49 sq cm, then its **side length** is .... cm.
(14 or 7 or 13)

f If the perimeter of a square is 24 cm, then its **side length** is .... cm.
(12 or 8 or 6)

g If the area of a rectangle is 36 sq cm and its length is 9 cm, then the **width** of the rectangle is .... cm. (4 or 6 or 45)

h If the area of a rectangle is 42 sq cm and its width is 6 cm, then its **length** is .... cm. (8 or 15 or 7)

i If the perimeter of a rectangle is 24 cm and its length is 8 cm, then the **width** of the rectangle is .... cm. (3 or 4 or 12)

j The **perimeter** of the opposite figure is .... cm.
(15 or 7 or 9)

Second: Answer the following:

1 Complete the following table:

	Side Length	Perimeter of the Square	Area of the Square
a	6 cm	.... X .... = ... cm.	.... X .... = ... sq cm.
b	.... cm	32 cm	.... X .... = ... sq cm.
c	.... cm	.... X .... = ... cm.	25 sq cm

2 Complete the following table:

	Length	Width	Perimeter of the Rectangle	Area of the Rectangle
a	7 cm	3 cm	(........ + ...) X .... = ... cm.	.... X .... = ... sq cm.
b	7 cm	.... cm	22 cm	.... X .... = ... sq cm.
c	.... cm	5 cm	28 cm	.... X .... = ... sq cm.
d	.... cm	3 cm	(........ + ...) X .... = ... cm.	30 sq cm
e	8 cm	.... cm	(........ + ...) X .... = ... cm.	48 sq cm

3 Complete the following table:

Shape	a (rectangle: 7 cm, 3 cm)	b (square: 6 cm, 6 cm)
Perimeter	.... cm.	.... cm.
Area	.... sq cm.	.... sq cm.

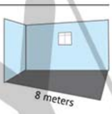
4 **Calculate the perimeter of each of the following:**



5 **Draw a hexagon with a perimeter of 18 cm. Then draw a quadrilateral with the same perimeter and show the lengths of its sides on the drawing.**

Hexagon ⟶ Quadrilateral

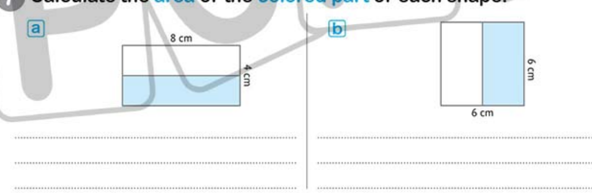
6 **If the floor of Nada's room is a rectangle, its perimeter is 28 meters, and the length of the room is 8 meters, what is the width of the room and its area?**



....

....

7 **Calculate the area of the colored part of each shape:**



....

....

....

Fractions

First: **Choose the correct answer:**

a Three-fifths = ... ($\frac{3}{5}$ or $\frac{5}{3}$ or $\frac{3}{8}$)

b $\frac{3}{6}$ = ... (Three-sixths or Six-thirds or Three-ninths)

c The fraction that represents the shaded parts in the opposite figure is .... ($\frac{4}{3}$ or $\frac{3}{4}$ or $\frac{3}{7}$)

d $\frac{1}{4}$ ☐ $\frac{1}{7}$ (< or = or >)

e $\frac{3}{7}$ ☐ $\frac{5}{7}$ (< or = or >)

f $\frac{1}{3}$ ☐ $\frac{2}{6}$ (< or = or >)

g Half an hour ☐ Half a day (< or = or >)

h Two-thirds ☐ Two-sixths (< or = or >)

i $\frac{1}{3}$ of 18 is .... (3 or 6 or 9)

j $\frac{1}{2}$ of an hour is .... (15 or 20 or 30)

k $\frac{1}{4}$ of .... is 24 ÷ 8. (8 or 6 or 12)

l 1 = $\frac{5}{\dots}$ (3 or 4 or 5)

m The fraction that is represented on the following number line is ....

0 ... 1

($\frac{2}{3}$ or $\frac{2}{4}$ or $\frac{2}{5}$)

Second: Complete the following:

a ....-eighths = $\frac{3}{\dots}$

b  $1 = \frac{\dots}{6}$

c $\frac{2}{5} = \frac{6}{\dots}$

d $\frac{\dots}{15} = \frac{2}{3}$

e $\frac{2}{3} = \frac{4}{\dots} = \frac{\dots}{12}$

f $\frac{18}{24} = \frac{3}{\dots} = \frac{\dots}{8}$

g $\frac{1}{5} + \frac{3}{5} = \frac{\dots}{\dots}$

h $\frac{2}{7} + \frac{\dots}{\dots} = \frac{5}{7}$

i $1 - \frac{2}{3} = \frac{\dots}{\dots}$

j $\frac{5}{8} - \frac{\dots}{\dots} = \frac{2}{8}$

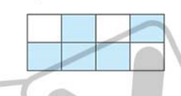
k $\frac{1}{6} + \frac{1}{6} + \frac{3}{6} = \frac{\dots}{\dots}$

l $\frac{\dots}{\dots}$ of 20 is 20 ÷ 4.

m $\frac{1}{3}$ of 24 is 24 ÷ ....

n $\frac{1}{3} = \frac{2}{\dots} = \frac{3}{\dots} = \frac{4}{\dots}$

o The fraction that represents the colored parts is ....



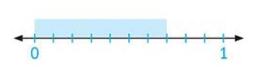
p The fraction that represents the colored parts is ....



q The fraction represented on the number line is ....



r The fraction represented on the number line is ....





Third: Answer the following:

1. Nadia has a loaf of bread. She wants to share it with 2 of her friends. Use the opposite shape to represent this problem.

2. Ahmed ate $\frac{1}{2}$ of a pizza and Bassem ate $\frac{1}{5}$ of it. Who ate more? (Draw a model to explain your answer.)

....

....

....

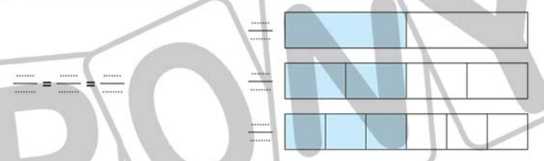
3. Omar had $\frac{5}{6}$ of a candy bar during the break. He gave $\frac{2}{6}$ of it to his friend. How much does he have left?

....

....

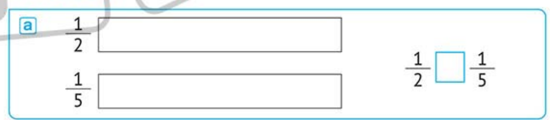
....

4. Use the following fraction models to complete:



$\frac{\dots}{\dots} = \frac{\dots}{\dots} = \frac{\dots}{\dots}$

5. Represent the following fractions on the number lines or models, then compare using (<, =, or >):



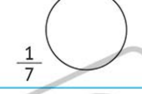
a) $\frac{1}{2}$

$\frac{1}{5}$

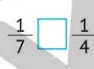
$\frac{1}{2}$ ☐ $\frac{1}{5}$



b

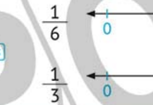


$\frac{1}{7}$ $\frac{1}{4}$



$\frac{1}{7}$ ☐ $\frac{1}{4}$

c



$\frac{1}{6}$ (0 — 1)

$\frac{1}{3}$ (0 — 1)

$\frac{1}{6}$ ☐ $\frac{1}{3}$

6 Arrange the following fractions in an **ascending** order:

a

$\frac{3}{5}$, $\frac{4}{5}$, $\frac{1}{5}$, $\frac{2}{5}$

.... , ... , ... , ...

b

$\frac{1}{3}$, $\frac{1}{5}$, $\frac{1}{8}$, $\frac{1}{2}$

.... , ... , ... , ...

c Use the following number line to arrange:

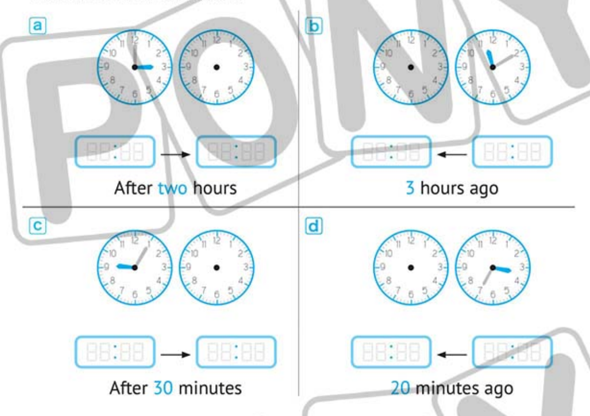
$\frac{1}{8}$, $\frac{3}{6}$, $\frac{5}{8}$, $\frac{1}{4}$

0 — 1

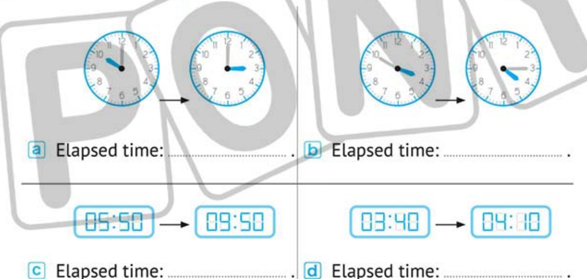
.... , ... , ... , ...

The Time

1 **Draw the analog clock hands and write the time on the digital clock to show the time:**



2 **Calculate the elapsed time between each two clocks:**



a Elapsed time: ....

b Elapsed time: ....

c Elapsed time: ....

d Elapsed time: ....

3 **How much time has elapsed?**

a 7:30 a.m. → 8:00 a.m.: ....

b 4:10 p.m. → 4:55 p.m.: ....

c 1:30 a.m. → 2:45 a.m.: ....

d 10:15 a.m. → 3:30 p.m.: ....

---

4 **Ahmed wakes up at 7:00 a.m., then leaves the house and goes to work at 8:30 a.m. It takes him 20 minutes to get to work and 20 minutes from work, then he spends 6 hours at work and returns home immediately. How will the analog clocks look when he wakes up, when he leaves home, and when he returns home?**





Wakes up | Leaves home | Returns home

---

5 **Nada went to the club with her family. They got to the club at 10:00 a.m. and came back home at 1:30 p.m. How much time did they spend at the club?**


Arrival time


Coming home time

The time they spent

= ....

---

6 **Heba spent 4 hours reading. She finished reading the book at 7:30 p.m. When did she start reading?**



Started → Finished

Numbers up to 999,999

First: Choose the correct answer:

a Nine hundred fifty thousand, two hundred two = ...

(950,202 or 905,202 or 950,220)

b 70 Thousands + 20 Hundreds + 7 Tens + 6 Ones = ...

(702,076 or 72,076 or 70,276)

c 500 + 20,000 + 70 + 8,000 + 4 = ...

(52,784 or 28,457 or 28,574)

d The **value** of the digit 7 in 57,234 is ....

(700 or 7,000 or 70,000)

e The greatest 5-different-digit number is ....

(99,999 or 10,000 or 98,765)

f The number that comes just before 70,000 is ....

(69,999 or 70,001 or 79,999)

g 700 Thousands = ... Hundreds. (700 or 7,000 or 700,000)

h 45,678 ☐ 45,687 (< or = or >)

i 5 + 200 + 7,000 ☐ 5,270 (< or = or >)

j 4,253 + 1,245 ☐ 9,699 – 4,201 (< or = or >)

Second: Complete the following:

a 70,502 **(in word form):** ....

b The **place value** of the digit 5 in 72,512 is the ....

c The smallest 5-digit number is ....

d .... comes just after 45,999.

e .... Thousands + ... Hundreds + ... Tens + ... Ones = 78,245

f 50 + 0 + 0 + 4 = ……………

g The largest 5-digit number that can be formed from the digits 7, 2, and 3 is …………… .

h 98,253 = …………… + …………… + …………… + …………… + …………… .

i 63,063 = 63 + ……………

j 45,234 + 2,175 = ……………

k 78,245 – 2,673 = ……………

l …………… + 24,123 = 78,556

m …………… – 4,125 = 8,243

Third: Answer the following:

1 Arrange the following numbers in ascending and descending orders:

45,462 , 45,364 , 45,642 , 45,436

a Ascending order: ……………

b Descending order: ……………

2 Eman has 625 pounds, and Nada has 265 pounds.

How much money do they have altogether?

They have = …………… + …………… = …………… pounds.

3 Sara wants to buy a refrigerator, which costs 4,250 LE. She saved 2,450 LE.

How much money does she need to buy the refrigerator?

The money she needs = …………… – …………… = …………… LE.

Model Exams

Model 1

1 Choose the correct answer:

a) The perimeter of a square with a side length of 6 cm is .... cm.
(36 or 12 or 24)

b) Three-fifths = ...
($\frac{3}{5}$ or $\frac{5}{3}$ or $\frac{3}{8}$)

c) 6 + 6 + 6 + 6 + 6 = ...
(6 X 6 or 6 + 5 or 6 X 5)

d) Nine hundred fifty thousand, two hundred two = ...
(950,202 or 905,202 or 950,220)

e) 7 X 30 = ...
(2 X 1 X 10 or 21 X 3 or 21 X 10)

2 Complete the following:

a) $\frac{18}{24} = \frac{3}{......} = \frac{......}{8}$

b) 7 X (5 X ....) = (.................... X 5) X 9

c) The **place value** of the digit 5 in 72,512 is the ....

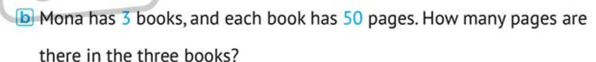
d) The perimeter of the opposite figure is .... units.

e) The elapsed time from 7:00 a.m. to 9:15 a.m. is ....

3 Answer the following:

a) Use 3, 6, and 18 to complete the fact family below:

1) .... X .... = ...
2) .... X .... = ...
3) .... ÷ .... = ...
4) .... ÷ .... = ...



b) Mona has 3 books, and each book has 50 pages. How many pages are there in the three books?

Number of pages = ...

Model 2

1 Choose the correct answer:

a) $\frac{3}{6}$ = ... (Three-sixths or Six-thirds or Three-ninths)

b) 9 X 4 = 30 + ... (6 or 36 or 9)

c) The perimeter of a rectangle with an 8 cm length and 3 cm width is .... cm. (24 or 22 or 11)

d) 7 X 4 X 3 = ... (7 X (4 + 3) or (7 + 4) X 3 or 7 X 12)

e) The largest 5-digit number is .... (10,000 or 98,765 or 99,999)

2 Complete the following:

a) $\frac{......}{15} = \frac{2}{3}$

b) 8 X 2 = ... + ... + ... + ...

c) The area of the opposite figure is .... square units.

d) The **place value** of the digit 5 in 24,523 is the ....

e) 6 X (3 + 7) = (6 X ....) + (6 X ....) = ... + ... = ...

3 Answer the following:

a) Omar brought $\frac{5}{6}$ of a candy bar to the break. He gave $\frac{2}{6}$ of it to a friend. How much candy does he have left?

....

b) Arrange the following numbers in a descending order:

45,230 , 45,302 , 45,023 , 45,203

.... , ... , ... , ...

c) Draw the hands of the analog clock according to the time shown on the digital clock.





Model 3

1 Choose the correct answer:

a) $8 \times 2 =$ .... (4×4 or $8 + 2$ or 4×6)

b) $\frac{1}{3}$ ☐ $\frac{2}{6}$ (< or = or >)

c) The side length of a square is 9 cm, then its area is .... sq cm. (81 or 18 or 36)

d) The number that comes just after 56,099 is .... (56,199 or 56,100 or 57,000)

e) $6 \times 5 \times 4 =$ .... (20×30 or 6×9 or 30×4)

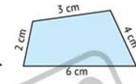
2 Complete the following:

a) The largest number that can be formed from 2, 7, 6, 4, and 3 is ....

b) .... $\times$ (7 + ...) = 9×13

c) $\frac{1}{3}$ of 24 is 24 ÷ ....

d) The perimeter of the opposite figure is .... cm.



e) 7,562 + 456 = ...

3 Answer the following:

a) Use the fraction models to complete:



b) Calculate the elapsed time between the two clocks.

Elapsed time: ....

 → 

c) Ahmed has three boxes; each box has 5 bags, and each bag has 4 oranges. How many oranges does Ahmed have?

....

Model 4

1 Choose the correct answer:

a) The dimensions of a rectangle are 5 cm and 3 cm, then the area of this rectangle is .... sq cm. (15 or 16 or 8)

b) Half an hour ☐ Half a day (< or = or >)

c) If 7 X 12 = 84, then .... ÷ 12 = 7. (7 or 12 or 84)

d) 400 + 0 + 0 + 5 = ... (40,005 or 405 or 45)

e) 9 X 15 = ... (9 X (10 X 5) or 9 + (10 + 5) or 9 X 3 X 5)

2 Complete the following:

a) $\frac{1}{3} = \frac{2}{\dots} = \frac{3}{\dots} = \frac{4}{\dots}$

b) 6 X 15 = (.................. X 3) X 5

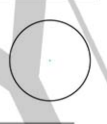
c) The area of the opposite figure is .... square units.

d) 566 thousands + 15 = ...

e) 4 X 7 = ... + ... + ... + ...

3 Answer the following:

a) Nadia has a loaf of bread. She wants to share it with 2 of her friends. Use the opposite shape to represent this problem.

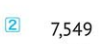


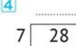
b) Arrange the following fractions in a descending order:

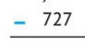
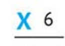
$\frac{2}{6}$, $\frac{2}{9}$, $\frac{2}{3}$, $\frac{2}{5}$

.... , ... , ... , ...

c) Find the result:



1) 4,521 + 269 = ...

2) 7,549 − 727 = ...

3) 8 X 6 = ...

4) 28 ÷ 7 = ...

Model 5

1 Choose the correct answer:

a) 8 X 15 = (8 X 10) + (8 X ....) (5 or 6 or 7)

b) The fraction that represents the shaded parts is .... ($\frac{4}{3}$ or $\frac{3}{4}$ or $\frac{3}{7}$)

c) If the perimeter of a square is 24 cm, then the side length of this square is .... cm. (12 or 8 or 6)

d) 4 X 9 = ... X 6 (4 or 9 or 6)

e) 400 Thousands = ... Tens. (400 or 4,000 or 40,000)

2 Complete the following:

a) $\frac{\cdots}{15} = \frac{2}{3}$

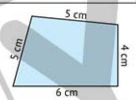
b) 8 X .... = 32

c) The **place value** of the digit 6 in 23,456 is ....

d) .... comes just after 75,099.

e) 9 X (3 X ....) = (......... X 3) X 10 = ... X .... = ...

3 Answer the following:



a) Calculate the perimeter of the opposite shape.

Perimeter = ... cm.

b) Manal spent 3 hours studying. If she started studying at 6:30, when did she finish studying?



Started Finished

c) Ahmed planted two gardens. The first contains 3 rows; in each row, there are 8 orange trees, and the second has 3 rows; in each row, there are 5 orange trees. How many orange trees did Ahmed plant?



....

....

Model 6

1 Choose the correct answer:

a The area of a rectangle is 36 sq cm and its length is 9 cm, then the width of this rectangle is .... cm. (4 or 6 or 45)

b Two-thirds ☐ Two-sixths (< or = or >)

c .... = 4 X 6 (16 or 24 or 32)

d Nine hundred thousand and nine = ... (9,009 or 900,009 or 900,090)

e 8 X 6 = 4 X .... X 6 (2 or 4 or 6)

2 Complete the following:

a The perimeter of the opposite figure is .... units.

b $\frac{2}{3} = \frac{4}{\cdots} = \frac{\cdots}{12}$

c The smallest number that can be formed from 3, 5, 2, 7, and 0 is ....

d 9 X 15 = (9 X ....) + (9 X 5) = ... + ... = ...

e 6 X 3 = ... + ... + ...

3 Answer the following:

a Represent each of the following fractions on the number lines, then compare using (<, =, or >):

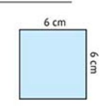


$\frac{1}{6}$ ☐ $\frac{1}{3}$

b Ahmed had 1,120 LE. He bought a shirt for 450 LE. Find the remaining money with Ahmed.

Remainder = ... – .... = ... LE.

c Find the area and perimeter of the opposite shape.



Area = ...

Perimeter = ...

Model 7

1 Choose the correct answer:

a) 42 ÷ 7 = ... (8 or 7 or 6)

b) $\frac{1}{4}$ of .... is 24 ÷ 8. (8 or 6 or 12)

c) 50 Hundreds + 20 Thousands + 2 Tens = ...

(20,502 or 20,052 or 25,020)

d) 8 X 30 = ... X 10 (8 or 24 or 240)

e) If the area of a rectangle is 36 sq cm and its length is 9 cm, then the width of the rectangle is .... cm. (4 or 6 or 45)

2 Complete the following:

a) The **place value** of the digit 3 in 52,301 is ....

b) .... + $\frac{3}{6}$ = $\frac{4}{6}$

c) $\frac{3}{4}$ = $\frac{9}{....}$

d) .... X (8 + ...) = 9 X 13

e) The fraction that represents the colored parts is ....



3 Answer the following:

a) Find the perimeter and area of the opposite shape.





9 cm

1) Perimeter = ...

= .... cm.

2) Area = ...

= .... sq cm.

b) Calculate the elapsed time between the two clocks:





Elapsed time = ...

c) Marwa has 24 sweets that she wants to distribute equally among three children. How many sweets will each child get?

....

....

Model 8

1 Choose the correct answer:

a) 20,000 + 5 + 300 = ... (20,305 or 20,530 or 25,300)

b) 5 X .... = 35 (8 or 7 or 6)

c) 9 X .... = (9 X 5) + (9 X 6) (30 or 11 or 9)

d) There are .... fifths in one whole. (10 or 1 or 5)

e) $\frac{3}{7}$ ☐ $\frac{5}{7}$ (< or = or >)

2 Complete the following:

a) The fraction represented on the opposite number line is ....

(number line: 0 ... 1)

b) If 8 X 9 = 72, then 72 ÷ 8 = ..., and 72 ÷ 9 = ...

c) The **value** of the digit 0 in 70,235 is ....

d) 8 X 5 X 2 = (8 X ....) X 2 = ... X 2 = ...

e) If the area of a rectangle is 42 sq cm and its width is 6 cm, then its length is .... cm.

3 Answer the following:

a) If the floor of Nada's room is a rectangle, its perimeter is 28 meters, and the length of the room is 8 meters, what is the width of the room and its area?

....

....

b) Write the fraction that represents the colored parts:



c) Arrange the following fractions in an ascending order. Use the number line:



.... , ... , ... , ...

Model 9

1 Choose the correct answer:

a) $\frac{1}{2}$ of an hour is .... (15 or 20 or 30)

b) 7,000 + 25 = ... (725 or 7,250 or 7,025)

c) 7 X 30 = ... X 10 (21 or 10 or 7)

d) The **value** of the digit 0 in 20,456 is .... (0 or 10 or 1,000)

e) 90 Thousands = ... Tens. (90 or 900 or 9,000)

2 Complete the following:

a) The fraction that represents the colored parts is ....

b) 36 ÷ .... = 9

c) $\frac{1}{3} = \frac{2}{\dots} = \frac{3}{\dots}$

d) If the perimeter of a rectangle is 24 cm and its length is 8 cm, then the width of the rectangle is .... cm.

e) The number that comes just after 25,999 is ....

3 Answer the following:

a) Calculate the area of the colored part of the following shape.



....

....

b) Compare using (<, =, or >):

1) 705,203 ☐ 75,320

2) 6 + 200 + 700,000 ☐ 620,700

3) $\frac{7}{9} - \frac{2}{9}$ ☐ $\frac{3}{5} + \frac{2}{5}$

4) $\frac{1}{2}$ of 8 ☐ $\frac{1}{3}$ of 12

c) Hisham has a 12-meter-long piece of cloth that he wants to divide into 4 parts. What is the length of each part? And what is the equivalent fraction of one part?

....

....

Model 10

1 Choose the correct answer:

a $\frac{1}{4}$ ☐ $\frac{1}{7}$ (< or = or >)

b The **place value** of the digit 5 in 42,514 is the ....

(Thousands or Hundreds or Ten Thousands)

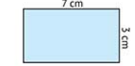
c 6 X (............ X 7) = (6 X 5) X 7 (6 or 5 or 7)

d 50 Thousands + 200 Hundreds = ... (50,200 or 52,000 or 70,000)

e 45 X 10 = 5 X .... (10 or 90 or 9)

2 Complete the following:

a The perimeter of the opposite shape is .... cm.



b 50,000 + 20 + 7,000 + 500 + 3 = ...

c 4 X (10 + 7) = (4 X ....) + (4 X 7) = ... + ... = ...

d $1 = \frac{5}{\ldots}$

e $\frac{2}{\ldots} = \frac{14}{35}$

3 Answer the following:

a Find the result:

1 75,234 + 4,866 = ...

2 $\frac{3}{5} - \frac{1}{5} =$ ....

3 48 ÷ 6 = ...

4 8 X 20 = ...

b Use the following line plot graph to complete the bar graph:

